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**CATALYZING ENTREPRENEURSHIP: THE PALESTINIAN INFORMATION AND
COMMUNICATIONS TECHNOLOGY INCUBATOR (PCTI):
MARKET FEASIBILITY ASSESSMENT AND BUSINESS PLAN**

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Introduction

The Palestinian economy is facing significant challenges that threaten the economic livelihood of the majority of its residents. There is an immediate opportunity to strengthen both the economy and economic outcomes for individual Palestinians through an information and communications technology incubator. The proposed Palestinian Information and Communications Technology Incubator (PICTI) can play a critical role in helping to bolster and catalyze the development of one of the few strategic industries in West Bank/Gaza—ICT.

As a dynamic *bridge to the marketplace*, PICTI will help overcome the limitations of the region's sources of traditional economic inputs by providing focused - assistance to entrepreneurs and businesses and by serving as a partner in expanding their capacity to participate in and capture a growing share of the local, regional, and global market for ICT products and services. In the short-term, the incubator will immediately help Palestinian entrepreneurs expand their firms and markets, while in the medium-term, as the incubator matures, it will help foster a more market-supported set of services for accelerating the *formation* as well as the expansion of ICT enterprises. In the long-run, it will become an even more critical component of market institution building, helping to improve educational and training pipelines yielding entrepreneurs, building up the capacity of talent fueling the economy, fostering risk capital instruments and mechanisms, and building linkages between the Palestinian markets and regional and global markets.

The following report briefly describes the logic of utilizing incubators as an economic development tool, then analyzes the demands for incubation in the West Bank, and finally proposes a business plan that can address some of the critical needs the information technology and communications sector must address to survive and grow.

Incubating Technology— A Key to Strategic and Sustainable Economic Growth

Embedded Incubators: Connecting Business Acceleration to Industry Clusters in the Region

Today's rapid technological advances are driving the transformation of the global economy and the potential for economic prosperity and sustainability. Increasingly, it will be difficult for any economy, developed or developing, to thrive without a deliberate and effective strategy to enhance the economic competitiveness of its regions and their industry clusters. Information and communications technology is a particularly strategic industry focus because of its potential to transform economies, not only because it is one of the fastest growing and dynamic industries worldwide, but also because of the critical role it plays in enabling the competitive performance of virtually all industries—from construction to tourism to manufacturing.

Fortunately, given the relatively low costs to start-up ICT firms, the role of human talent (coupled with the relatively limited need for other inputs), and the rapid rate of technological advances, new market space is perpetually being created for entrants to the information technology and communications industries. The industry is constantly evolving in new directions; today ICT encompasses the production, processing and dissemination of information. It includes a wide array of activities ranging from the design, testing, production and servicing of hardware and software related to information and communication technologies to e-commerce, e-business, and other Internet based business activities.

Practically any region can now help foster a new concentration of these technology firms within the development of a well-conceived ICT industry strategy that is sensitive to the dynamics of markets and technologies, and effectively implemented. A cornerstone of this strategy is to catalyze the commercialization of technology, and the formation, survival and the expansion of private enterprises. Local governments have several tools at their disposal to catalyze and support entrepreneurship.

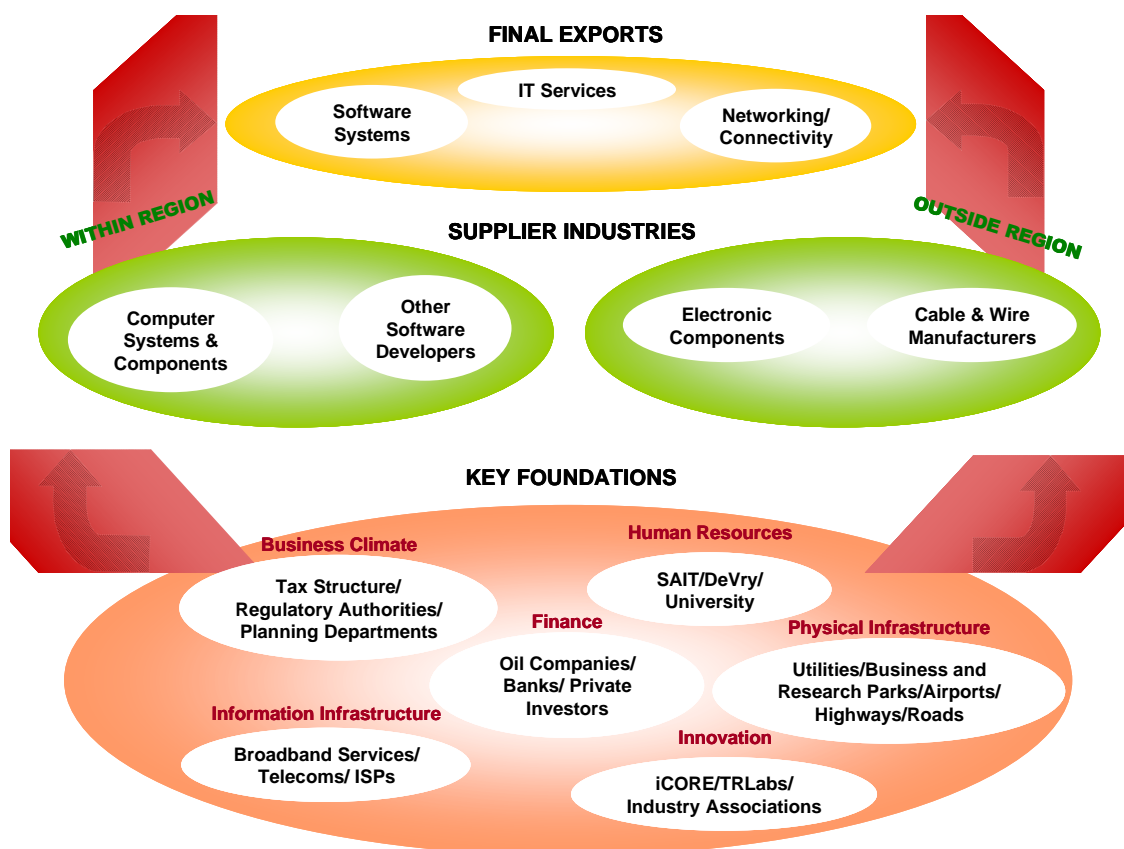
Business incubators are a primary tool for - accelerating local entrepreneurship and the rate of firm formation, survival, and expansion. Early in the 1980s in developed countries, even those with a long history of public and private support for entrepreneurship, regional leaders realized that new and small businesses account for a substantial portion of economic growth, job creation, and innovation yet receive relatively meager market support. Visionary leaders experimented with the creation of business development incubators designed to mobilize a region's resources to help "incubate" and accelerate the commercialization of ideas (i.e., shorten and clarify the path to market), the realization of projects, and the fostering of entrepreneurs.

Effective incubators are those that recognize and build on a region's *core competencies* and *assets* and are connected to the region's industry clusters. *Industry clusters* often refer to concentrations of exporting firms, suppliers, and providers of critical inputs (such as trained workers, finance, technology, and infrastructure) that operate in the same industry and share markets. The importance of the concept of the industry cluster and the primary reason it is warranting significant and widespread attention in economic development practice is the evidence from successful regions around the world pointing to the strong correlation between the

competitiveness of the region and the competitiveness of its industry clusters. Regions can support economic growth by providing and enhancing critical assets that fuel a cluster's innovation, entrepreneurship, and export activities.

Figure II-1 illustrates a typical information technology cluster. Critical to understanding the cluster is the notion of understanding the 3 different layers—the top layer of exporting firms, the middle layer of suppliers, the bottom economic foundations layer—and the interrelationships among them. The exporters' layer is made up of companies with significant markets outside their immediate region. They are critical to the local economy because as exporters they bring in *new income* to the region, setting in motion a cycle of local spending and investment often measured through income and employment multipliers. A layer of networked suppliers of goods and services that enable exporters to thrive and remain regionally and globally competitive supports these companies. Both exporters and suppliers are supported by a network of regional foundations and assets that provide such services as R&D, finance, human resources, physical infrastructure, information infrastructure, and a favorable business climate, including assistance in commercializing ideas and technology, starting businesses, and expanding markets. By working closely with industry to customize services provided to industry, regions can help strengthen inter-firm cooperation and collaboration and grow new suppliers and exporters.

**FIGURE II-1
EXAMPLE OF IT CLUSTER**



Many developing countries are pursuing targeted policies in hope of fostering competitive ICT clusters. While some are doing well in the training and production of ICT professionals, they are not faring as well in creating an enabling environment for nurturing ICT entrepreneurs and thriving businesses. Yet the barriers to entry in this industry are among the lowest of any industry, and the local, regional, and global market for various ICT market segments are growing, even amidst less prosperous global economic times. This apparent shortcoming is often a result of inadequate market and institutional support mechanisms for entrepreneurship in developing countries and inadequate or even a lack of strategy for developing a healthy pipeline from ICT learning and training to entrepreneurship and business development. An incubator nested in a regional ICT cluster strategy can help address these shortcomings and serve as a catalyst to mobilizing regional resources in support of entrepreneurship.

Whereas in the 1980s, there were only a handful of incubators in the US, today they number in the thousands and their proliferation is now world-wide, with many countries now developing their own systems and “brands” for incubation.

Incubator Types

Traditionally—in the early stage of their development—an incubator referred to a *physical* space that offered shared facilities and administrative or clerical services in order to assist start-up or small companies that could not afford to lease space, purchase equipment, or hire full-time administrative or clerical staff. Over time, more stakeholders came to the recognition that these predominately real estate services were not sufficient and that as real estate industry and business parks proliferated, successful incubators had to provide more value-added services. Different institutions pioneered next-generation incubators and today incubators generally fall into 6 categories:

1. University or college-sponsored incubators
2. State or local government sponsored incubators
3. Private corporate for-profit incubators
4. Nonprofit incubators
5. Virtual incubator or incubator-without-walls
6. Hybrid incubators

The following table provides an overview of the main features and advantages and disadvantages of each type of incubator, with particular attention paid to the relevance of each structure for the Palestinian environment.

TABLE II-1
COMPARING INCUBATOR STRUCTURES

| Type of Incubator | Main Features | Advantages | Disadvantages | Fit for PCTI |
|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| University Sponsored | Housed on university grounds, utilizing university assets; often linked to an R&D institute, a business school | A well-developed pipeline of potential entrepreneurs, access to faculty to provide technical assistance, inexpensive space, credibility | Sometimes geared for narrow commercialization of technology; may be perceived to be less entrepreneurial as independent incubators, may be restricted by university regulations | Universities in West Bank/Gaza in general have weak R&D, and nascent business and computer science schools; advantages in linking with universities would be to gain access to faculty and student interns |
| Public Sponsorship | Sponsored by local or state government, provide free or highly subsidized space, linked to business assistance center | Free or low rent which is one of the primary reasons many American incubators are able to break even, helps city attract and retain start-ups and ensure they stay in local area, improves image of business climate and business friendly city | May be subject to city or public regulations and restrictions; may be hampered in its ability to serve wider set of entrepreneurs; local government perceived as nonentrepreneurial non-market driven, may suffer from limited credibility | Given the political situation, limited public capacity, and the limited resources of local government, it is highly unlikely that local government can offer significant resources and advantages to incubator. |
| Private Corporate | Often set up as separate nonprofit entity established to serve employees who aspire to be entrepreneurs and have developed technology products and services. Used to maintain links with employees who leave, keep abreast of would be competitors, and retain employees | Access to significant resources including both financial and talent, leverage corporate name and identity in attracting investment and venture capital; head-start on links to entrepreneurs and businesses | May be perceived as limited to activities related to corporate parent | Virtually, no local large corporations of the necessary scope or size to be able to sponsor such an activity; international corporate sponsorship would be desirable but maybe too difficult in the present political situation |
| Virtual Incubator | An "incubator without walls" has very limited physical presence, usually a small office. Focus on providing access to a network of professionals who provide accounting, legal, technical, financial consultants. | Low overhead cost, ability to maximize revenue based on fee for service model. Provides a wide-ranging network of professionals. | More suitable for later stage companies, or for individuals or companies who know the type of services they require; less helpful in commercialization of ideas, in helping start-ups who require more consistent and sustained assistance. | Not suitable on its own but advantageous if combined with a physical incubator; suitable for West Bank/Gaza as a virtual component of incubator will allow access to Gazan firms and other areas relatively distant from Ramallah environs. |

| Type of Incubator | Main Features | Advantages | Disadvantages | Fit for PCTI |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Hybrid Incubator | Combines one or more features of other types of incubators. Most common is the combination of a physical incubator with a virtual incubator. | Larger network of services, usually able to incorporate both virtual and actual incubator components, private, public, and nonprofit services | More complex management, requires more coordination between different entities, must balance structure | PCTI would benefit from affiliating with a university, from retaining a virtual component, and from forming strong ties to local government which can serve as important source of procurement and test bed for product development; consequently, hybrid incubator is likely choice |

Incubators of all these types are proliferating in all regions. In North America, there will be several types of incubators within the same region. In developing regions, there is often less diversity with the primary type of incubator being some version of a government-sponsored incubator. More recently, with the acceleration of technological advancements allowing for real-time connectivity among people, institutions, and projects, *virtual incubators* or *incubators-without-walls* are becoming popular.

Business Incubators Provide Key Services

Early business incubators emerged in response to the recognition that the start-up costs of basic office infrastructure support and services and the commercialization of new technologies or discoveries are often too costly for emerging businesses and are a primary cause of the early failure of such businesses.

Since then the concept of business acceleration and incubation has evolved substantially and incubators now encompass multi-tenant facilities with shared services, facilities connected with government R&D laboratories, university-based incubators, venture capital-connected incubators and corporate incubators. There are many different models for the design, financing, development, and management of incubators and the services they encompass are growing day-by-day. Regardless of the model, incubators usually provide *four* key services:

1. State-of-the-art shared infrastructure support and services;
2. An entrepreneurial and learning environment;
3. An accessible and affordable network of mentors, advisors, and investors; and
4. Visibility in the marketplace.

In addition to assisting in the start-up of new enterprises and in the survival and growth of existing businesses, incubators can play a key role in economic development. Well designed, market-oriented incubators foster entrepreneurship, reduce the failure rate of businesses, foster the growth of small companies, aid in the process of innovation, help create jobs, and aid in

advancing overall economic development climate. Incubating technology-based new firms can foster and accelerate economic growth in several ways.

Creating Jobs and Enhancing Skills

There is significant research pointing to the important role of small businesses in generating jobs, economic growth, and innovation. In the United States, small business generates approximately 80% of new jobs, accounts for half of GDP and a substantial portion of all jobs in the private sector. In West Bank/Gaza small businesses makeup the greater portion of the private sector and private enterprise is one of a limited number of avenues to earn a livelihood. In recent years, ICT entrepreneurship has been particularly strong.

Enhancing the Rates of New Business Formation, Survival and Expansion

However, small businesses are often hampered by a lack of capital and the cost of needed support services, which thwarts their development. In addition to the precarious situation of small businesses, many of which never make it past their 3rd year, the lack of adequate support for would-be entrepreneurs represents a wasted resource. Research indicates that many potentially good ideas never reach the marketplace because potential entrepreneurs are stymied in their efforts to access business planning support, marketing, financing, or mentoring. Of those few ideas that do in fact reach the marketplace, only a few survive and succeed. In West Bank/Gaza, there are substantial individual, independent contractors who supply services to local ICT firms. Presumably, if there were specific programs and institutions established to help these individuals explore opportunities, access needed resources, and develop effective business skills, many more would start new businesses.

Fostering a Competitive, Networked Economy

In addition to fostering the growth of small enterprises and the creation of new jobs, an ICT incubator offers opportunities to enhance knowledge sharing, innovation, and entrepreneurship for the whole region and economy. The creation of these “networks” of innovation is seen as the crux of successful regions like Silicon Valley, Austin, or Bangalore. Whereas the level of resources available in the region is certainly critical to the overall level of innovation and performance, it is the use of these resources, and their maximization or leverage by the “*flows of the networks of ideas, talent and investors, firms, and organizations that are the linchpin for success*.” Given the limited infrastructure and security conditions in the West Bank and Gaza, the use of the incubator to anchor, establish, and multiply these networks is even more critical.

Key Success Factors for Incubators

Over the past decade, incubators and various forms of business acceleration facilities and mechanisms (both physical and virtual) have proliferated in many regions around the world. As aforementioned, their structure, governance, and business models have also evolved, resulting in a myriad of alternative approaches to the design, development, and management of incubators. While incubators that survive are able to accelerate the establishment, survival, and growth of businesses, many incubators in fact do not survive. The reasons for their failure are many but largely stem from inadequate or weak management, ignorance or the lack of attention to global industry market and trends, lack of the grounding of the incubator in the region in which it is located, and the lack of adequate attention to creating a market-driven incubator.

The analysis of both failed and successful incubators points to six primary success factors that incubators need to integrate:

Successful incubators are *embedded in their region* and are strategically connected to the region's *economic clusters* –i.e., incubators need to be linked to the growing industry segments in the region.

An incubator requires *management by an entrepreneurial, energetic, visionary individual* who is focused on providing customized assistance to firms and is not burdened by administrative duties.

Incubators need to develop and adopt careful screening criteria to ensure the entry of firms with the greatest potential to succeed and need to pay *special attention to the synergies and “fit”* among on-site client firms.

The incubator is located in a *state-of-the-art high technology building* with “smart” (advanced) conferencing and telecommunications infrastructure to foster strong linkages among local companies and between companies and global firms.

Incubator has a well-designed, *flexible space* with the potential for expansion in order to accommodate firm growth and growth in demand for incubator space.

Incubators provide *value-added services* beyond the provision of basic space, office services, and infrastructure. These value-added services must fill gaps in the business support environment of the region and need to be provided at an *affordable rate (i.e., either directly or indirectly subsidized)* to young companies. These services often include but are not limited to technical, advisory, marketing, management, and financial consulting.

Challenges and Opportunities

The Exceptional Palestinian Challenge

A Palestinian ICT incubator can serve as a critical catalyst and anchor for the emerging ICT cluster in West Bank/Gaza. Due to the incipient nature of this local industry, the dearth of business support networks, the lack of institutional and venture capital, and the political turmoil in the region, the proposed incubator has a more fundamental and larger role to play than its counterpart in other regions.

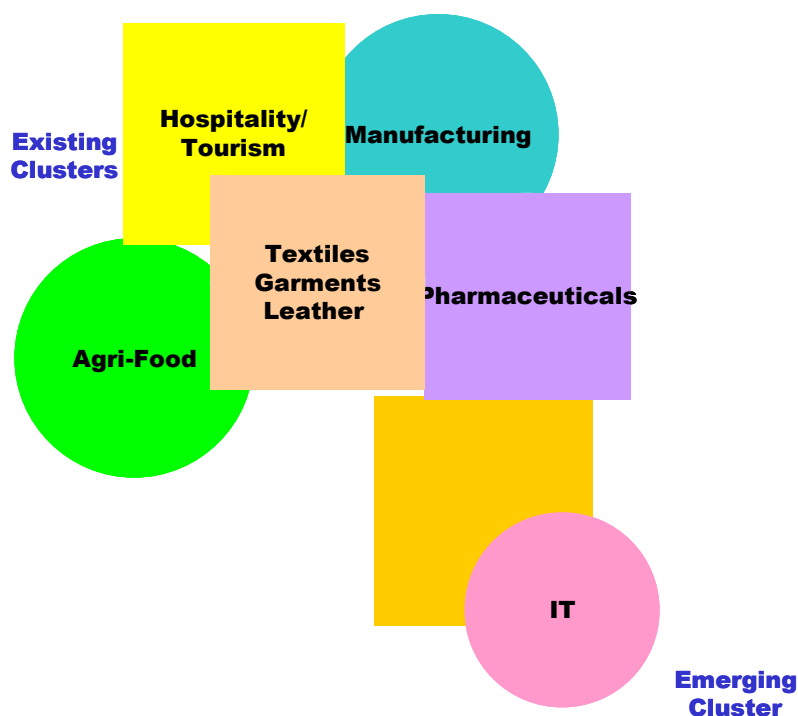
The challenge is that many of the typical resources in a region—skilled workers, expanding and affordable information technology infrastructure, growing industry clusters, a sizeable professional community, substantial local government resources—are weak or virtually absent. Thus the widespread use of ICT, e-government, e-commerce, and overall integration of Internet and IT in economic and social activities is absent. However, this challenge also represents an immense market opportunity for ICT firms in the coming years. To take advantage of this market opportunity, industry and regional leaders must pursue consistent and collaborative efforts to mobilize resources and establish an enabling environment to grow the information economy in West Bank/Gaza.

This section will highlight the institutional and market landscape of West Bank, and Ramallah in particular, explore alternatives to the design and establishment of the incubator, and present a business plan for its realization.

Existing and Emerging Industry Clusters

A useful starting point is to understand the existing and emerging industries in West Bank/Gaza. As Figure III-1 illustrates, the Palestinian economy is still largely driven by traditional manufacturing sectors. The ICT industry is one of the promising industry clusters, both for its strategic potential as well as its potential role in improving the competitiveness of the other industries.

FIGURE III-1
EXISTING AND POTENTIAL INDUSTRY “CLUSTERS” IN WEST BANK/GAZA



Note: Graphic is included only for listing existing and potential clusters and for depicting relative size of industries. Size of circles and intersections between circles do not hold any value.

Economy Dominated by SME Businesses

The Palestinian economy is characterized by a dominance of small and medium sized enterprises in almost all industries. The position of the Small Medium Sized Enterprise (SME) sector in the West Bank and Gaza is important to understanding the position of ICT companies, their support network, and their potential for success. A recent study by the International Finance Corporation estimated the existence of approximately 50,000 businesses that exist across the primary, secondary, and tertiary sectors. Of these, over 90% are single owner SMEs often referred to as micro-enterprises or micro-businesses (employing less than 5 persons). Average employment rates are less than 4 persons with gross average capitalization levels of \$10,000. Over 75% of SMEs are in services, but manufacturing remains the largest source of employment. The largest manufacturing industries are Food and Beverage, Metal Fabrication, Textiles/Garments and Furniture/Wood Products. The primary service sectors are Retail, Hotels and Restaurants, and Business Services, including IT. The ICT sector, along with pharmaceutical and food processing industries, is considered to be one of the most successful service and SME industries, especially in its potential to attract foreign investment.

The SME sector in the West Bank suffers from many of the typical problems prevalent in developing countries- lack of industry organization, cash flow problems and limited capital, lack of or limited management experience and capacity, poor access to information on market trends and demand, lagging skills development, and the difficulty of attracting and retaining experienced workers. These weaknesses hold true for the emerging ICT sector as well. Many of these weaknesses or gaps can be mitigated or addressed by the establishment of an incubator.

The incubator, despite limited capacity at the outset, can make significant inroads in addressing some of these barriers to competitiveness and can serve as a demonstration of the required action.

Lack of Industry Organization

An incubator, in conjunction with trade associations and institutional stakeholders including universities, banks, venture capital firms, and law firms, can serve as center or “meeting point” for industry and institutional partners, provide a mechanism to organize and build capacity of individual firms as well as the collective capacity of cluster firms and institutions, and as important catalyst to creating *an active, collaborative network of* interrelated firms and institutions focused on ICT- in other words, a successful incubator can help foster the emergence of an ICT *cluster*. As a first step, the incubator, working with important community partners such as PITA and NIIT, can help the loosely linked ICT firms recognize their identity, work on common problems, and raise their visibility regionally and internationally. The incubator can also help create the mechanisms to help firms pool their capabilities and create more joint partnerships and bid on larger projects.

Limited Capital

Lack of or limited capital is often the largest (and loudest) complaint of SMEs, with ICT firms being no exception. Lack of adequate capital for creating, expanding, and renewing enterprises is an almost universal issue. Interestingly, an investigation of this issue around the world reveals the often misdiagnosis of the issue. Entrepreneurs’ perceptions regarding the lack of adequate capital flows into a specific region are more often a lack of *deal generation*. Both capital providers as well as more business-savvy entrepreneurs will acknowledge that lack of sophisticated entrepreneurs, lack of business planning and investment skills, and lack of experienced managerial capacity often serve to thwart the generation of a healthy flow of potential deals for investors (whether they be institutional, public, or private investors) and thus the resulting disinterest or absence of investors. Several issues are key:

1. Traditional (banking) institutions have limited experience in customizing financial instruments to the high-technology industries including IT. Therefore, they lack the experience in being able to assess the potential of the business, lack the frameworks or analytical tools for assessing the value, and are not able to overcome the difficulty in using traditional “assets” to hedge against risk. This lack of sophistication in risk assessment and management drives their reluctance to serve this important sector. In more developed economies, traditional institutions are realizing the importance of this strategic sector and its value-added potential, and therefore are taking concrete steps to build up their capacity to serve this sector.

The financial industry in West Bank and Gaza will need substantial assistance to build up this capacity. An incubator can serve as an important intermediary between the interests of the financial institutions and client firms and help to create a common framework for valuation, risk assessment, and investment guidance. As a first step, the incubator can serve as a sieve to assess firms’ potential and select those with the highest potential and lowest risk. The creation of some sort of PICTI quality standard or certification can then ease access of these firms for institutional financing. The next step would be for the incubator to work

with banks and firms and create customized instruments to serve the distinct needs of this sector.

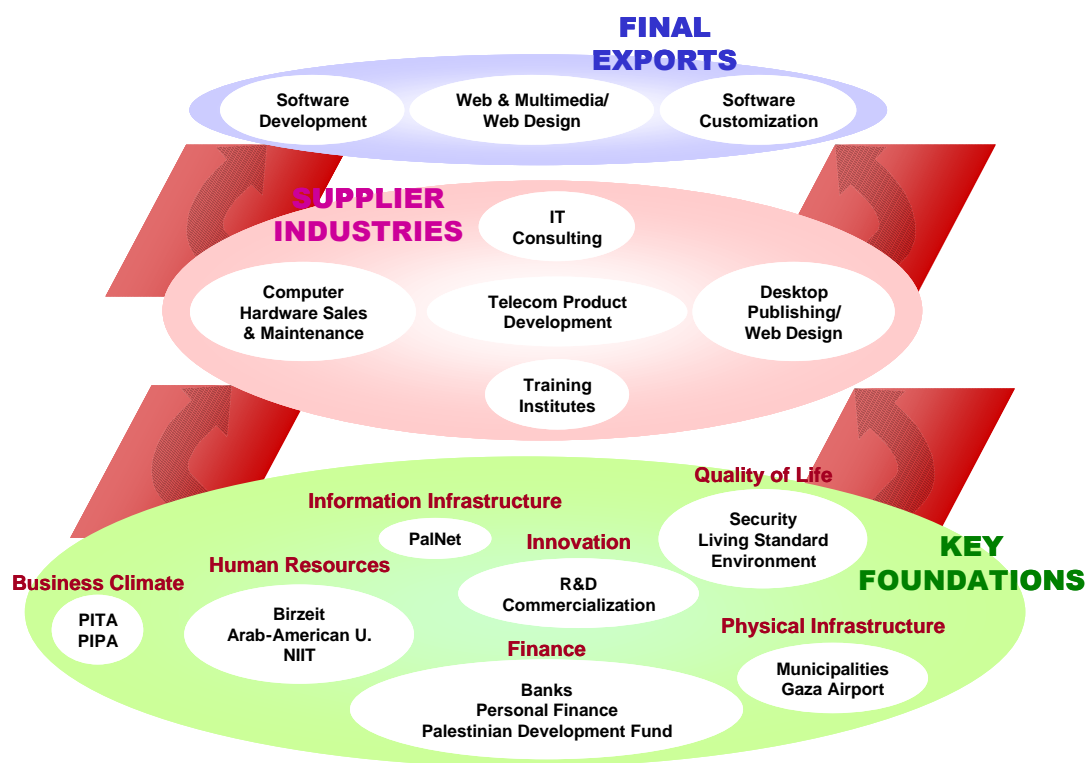
2. The perceived issue of limited management experience to serve a growing ICT industry is widespread, both in West Bank/Gaza and elsewhere. This stems from the particularities of the ICT industry, the technical background of many entrepreneurs in this field, the intense global competition, and the rapid rate of technological advancement and thus the overall dynamics of this industry. The incubator can also help to address these shortcomings in management.

One of the primary value-added services of an incubator is its ability to provide customized *surrogate* management for companies. Usually through an advisory board of managers and professionals, an incubator helps existing or potential business owners and managers learn the basics of management, develop in-house skills to create a business plan and growth strategy, devise a marketing plan, and the like. In doing so, an incubator serves as an important technology-transfer node—transferring management and business experience and acumen while building individual and firm capacity. In addition to this direct capacity building, successful incubators often develop additional programs to help expand this capacity, notably through entrepreneurship training and mentor-to-mentored programs. Entrepreneurship training focuses on helping technically-oriented individuals become more business-savvy by teaching them business fundamentals, financial skills, business planning skills, presentation and negotiation skills, and so on. Mentor-to-mentored programs match managers of established, experienced and successful firms with managers of small or start-up companies who then serve as a practical, peer-oriented, customized mechanism for transferring know-how and experience.

State of Readiness of Institutional Environment

The ICT industry is a fledgling industry in the West Bank and Gaza, though it is among the most vibrant and promising of the local industries. It is estimated that around 215 companies are IT-related with the vast majority of these being very small enterprises. The sector is comprised primarily of lower end products and services along the value chain.

**FIGURE III-2
PALESTINIAN IT CLUSTER**



Typically, a healthy ICT cluster encompasses numerous firms of different sizes and structures serving export markets and supported by a growing number of local and regional suppliers and economic foundations such as educational and training institutions, financial institutions, R&D, and the like. In the Middle East and North Africa, ICT clusters exist or are emerging in several places, Israel being the leader, but also including Turkey, Egypt, and more recently, Dubai. The ICT industry in West Bank/Gaza is beginning to develop a range of ICT firms. It is still weak, however, in the breadth of the cluster- that is, the diversity of market segments served by the cluster, the depth of the cluster- the capacity of the value-chain, and the interconnectivity among firms and institutions. Moreover, there are very few economic foundations that currently serve the ICT industry, although over the past few years considerable progress has been made with the emergence of an ICT industry association, specialized training institutions, and regulatory mechanisms. There are however still significant gaps that need to be addressed.

Even in stable, secure economies, incubators must still tread carefully in order to develop a strategic path to connect- with the surrounding community in order to forge successful alliances that leverage the finance, professional, technological, and human resources in the region. Many of the characteristics prevalent in other developing countries or regions apply to West Bank/Gaza—the brain drain of qualified IT professionals, the dearth of traditional and risk capital to finance entrepreneurship, the undeveloped market institutions that thwart higher levels of foreign investment, the predominance of low value-added activities in the IT industry value-chain, and the highly fragmented nature of the industry. In the West Bank, the gravity of these issues is compounded by additional challenges given the currently volatile security situation, the

disruption of learning and training, the relative political and economic isolation of West Bank/Gaza, and the mangled state of infrastructure and services. Consequently, industry and government leaders must work to address some of these business climate issues that must be resolved if an incubator is to survive and thrive in the long-term and to serve as a catalyst to the emergence of a competitive IT cluster.

Prior to the current deterioration in the security situation, regional leaders had made considerable strides in setting up IT-related institutions and in organizing the industry. There are several leading institutions that can play a key part in supporting the proposed incubator. These institutions are profiled below, with special attention given to their potential role in establishing and supporting an incubator.

National Institute of Information Technology

Mission: The West Bank/Gaza Economic Council for Development and Reconstruction (PECDAR) established NIIT. NIIT has set itself a broad mandate to:

- Monitor the developments and trends in the IT arena and prepare the proper recommendations for adapting them to serve the national economy.
- Increase the number of internationally certified IT graduates.
- Create job opportunities for IT graduates through professional placement programs.
- Adapt international IT quality assurance standards and ensure their implementation.
- Offer complimentary IT services such as IT investment incubators for startups.
- Prepare and deliver internationally certified training programs.

Of these, the current activities seem to center on NIIT serving as a hub for IT training and skills upgrading. NIIT has also recently put forth a vision that centers on the potential role it can play in accelerating entrepreneurship. NIIT would aim to achieve the following:

- To attract IT firms, particularly software development firms.
- To provide infrastructure to young or emerging companies in order to defray start-up costs.
- To mentor and provide access to vital services and industry experts and businessmen to potential entrepreneurs.

Core Competency: NIIT serves as a training institution offering classes in information technology focused on training for IT technicians, network administrators, and software engineers. Currently, they have few linkages to entrepreneurs. NIIT also claims to offer courses in organizational development, management and human resources. The latter are weak and significant resources are required to expand capacity in this area and enhance quality and value of offerings.

Staff Resources: Limited

Financial Resources: Limited

Relevant IT-Related Activities: IT related activities thus far have been restricted to the training of existing and potential IT professionals. NIIT would like to expand these activities to include training and support for IT entrepreneurs.

Collaborative Linkages: Currently, NIIT has linkages with other government institutions although the level of collaboration is unclear. Linkages to the private sector are few although importantly, NIIT management is apparently connected to a couple of potential entrepreneurs/start-ups who have expressed interest in collaborating with NIIT in order to develop their business.

Potential Role in Business Incubation: NIIT can, with adequate resources and the right partners, serve as an important hub for entrepreneurship training and development. Currently, there is practically no support in West Bank/Gaza for a yet-to-be or budding entrepreneur who may have an idea, a product or service, but no idea of how to develop it or get it to the market. These individuals need significant customized assistance to develop or commercialize the idea or technology, to formulate a business plan, to learn how to present the business plan to potential investors or partners, to develop a marketing strategy and the like. NIIT does not yet have the capacity, both in terms of raw human resources as well as specialized knowledge, to deliver these services. However, in collaboration with a local business school (such as the one at Birzeit or even at the Arab-American University at Jenin) and individual firms or a consortium of firms, NIIT can begin to offer valuable entrepreneurship programs. It can thus serve as a critical element in the pipeline of start-ups and small businesses to feed PICTI.

Palestine Information Technology Association

Mission: PITA mission is to promote the IT private sector through:

Advocating business enabling policies, mechanisms and environment through public-private partnership.

Promoting the Palestinian IT sector locally and internationally through facilitating access to markets for the benefit of the PITA members.

Engaging the technical and non-technical IT human resources and human resources related institutions in order to expand the qualified pool of labor and ensure the maintenance of a high level of professional standards.

It aspires to achieve these goals by:

Promoting and facilitating the exchange of current industry information among members.

Identifying and addressing members' emerging needs.

Monitoring and appropriately guiding PNA legislative and regulatory policy and its development.

Proactively influencing technology and infrastructure developments.

Providing professional support for IT suppliers.

Providing business development training.

Core Competency: PITA's core competency is in serving as an advocate for its members and the industry. As an industry association, PITA currently represents approximately 57 companies from various sub-sectors including hardware distributors, software development firms, office automation vendors, Internet service providers, telecommunications, IT consulting, IT training

and related businesses. PITA, although new, is successful at serving the interests of its member firms through active participation. The majority of these members, over 90%, are based in Ramallah and el-Bireh. PITA claims that it represents just under half of all IT-related firms in West Bank/Gaza. While it is difficult to verify the number of IT-related firms in West Bank/Gaza, it is generally acknowledged that PITA has succeeded in creating an industry association that provides needed services to its members and has been steadily building its membership since its inception in 1999.

Staff Resources: Staff is small, consisting primarily of a full-time director and a secretary. For training and business development activities, PITA relies on the assistance of consultants, often financed by international donors and programs. PITA can sponsor training and business development workshops but does not have the capacity to provide them itself. It is doubtful whether it can significantly scale-up activities given its current level of resources.

Financial Resources: Membership dues are US\$500 annually for each firm, for approximately \$26,000 in total membership dues. This base source of funds is supplemented by fees for services for such activities as business seminars and training workshops. (Need Figures)

Relevant IT-Related Activities: (insert information on key activities in last year) The organizing of a consortium of IT firms to attend the Dubai Gitex 2001 was one of the primary services provided in the past year. PITA also held (2?) workshops serving, demonstrating demand for IT training, market assessment guidance, and such services.

Collaborative Linkages: PITA is building strong linkages with IT related firms and institutions in the region and is trying to build linkages to institutions outside the region. In 2001, it collaborated with the Palestine Trade Center (Paltrade) in organizing a consortium of 9 Palestinian firms to attend the Gitex (Global Information Technology Exhibit) 2001 in Dubai. The Gitex exhibit resulted in an agreement to establish a Palestine IT office at Dubai Internet City and using the office as a vehicle to creating linkages to global markets. However, the collaborative culture and environment, for a variety of reasons, is still quite weak in the West Bank, and there needs to be specific attention and resources targeted towards assisting PITA and other institutions to forge alliances and programs, and to develop joint initiatives in order to leverage limited resources, build the capacity of each institution, and nurture a more collaborative environment for addressing IT opportunities and challenges.

Potential Role in Business Incubation: PITA can serve as an important steward of the incubator. With its growing ties to entrepreneurs, its knowledge of the IT environment and market in the West Bank, it can play an integral role in growing the pipeline to the incubator, in recruiting firms to serve on the advisory board and professional knowledge network, and as an important partner in strategic marketing initiatives. It can also serve as a strategic partner in forging regional and international alliances. As it has already made inroads into establishing a relationship with Dubai Internet City, PITA can be a useful alliance to assisting the incubator manager in developing similar and stronger relationships with other industrial or free zones in Dubai (example Jebel Ali Free Trade Zone) and other Middle Eastern regions. Although its current knowledge of incubation and its experience in business development is rudimentary, as it

partners with the proposed incubator and gains more “insider” entrepreneurship experience, PITA will be able to play an even greater role in incubation activities.

Palestine Trade Center: Paltrade

Mission: Paltrade is a nonprofit, private organization. Paltrade’s stated mission is to serve as the focal point for the private sector in the formation and implementation of strategies, programs and activities related to the promotion of Palestinian private sector products and services through increased international trade. More specifically, Paltrade strives:

- To promote Palestinian goods and services locally, regionally and internationally.
- To encourage and facilitate local and foreign investment and joint ventures in West Bank/Gaza.
- To sponsor and manage exhibitions, trade missions and the like related to the promotion of trade with, and investment, in West Bank/Gaza.
- To help build and sustain a legal and regulatory commercial framework in West Bank/Gaza.
- To represent the business community in West Bank/Gaza in its relationships with the various Palestinian Government agencies through effective dialogue and reasoned advocacy.
- To help Palestinian industries to adapt to new skills and international quality and standards which are the basics for entering the global markets.
- To maintain and disseminate information on local, regional, and international markets.

Core Competency: Paltrade serves as a key intermediary between foreign firms and the local market, and local firms and global markets. It works with local firms to obtain market intelligence, to identify potential global customers, to locate suppliers and organize trade exhibits and road shows. To foreign companies, it offers market intelligence on local firms, products and services, identification of potential customers, suppliers or partners, and other business information services. Paltrade, as part of the National Trade Dialogue Project (NTDP), also hosts workshops exploring the Palestinian business climate, policy environment, legal and regulatory frameworks, exporting know-how, and other related economic and business topics.

Staff Resources: Paltrade has limited staff resources for its current activities. It has an 11-member Board of Directors, all managers of leading local companies.

Financial Resources: Paltrade is a membership -based organization. It depends on membership dues and fees for its services. It obtains grants or contracts to achieve larger projects including market intelligence reports, market feasibility and assessments, policy studies and the like.

Relevant IT-related activities: As IT is an important sector in the national economic development efforts, and there is strong private sector interest and activity, Paltrade is active in the promotion of this sector. Through its technical assistance activities, it has sponsored several workshops on finance, standards, and policy although these have covered several industries rather than being customized to IT industry. It has also been a sponsor of several trade missions.

Collaborative Linkages: Paltrade works closely with several industry associations, and government bodies such as the Ministry of Economy and Trade. It works closely with PITA on ICT related issues and on the coordination of IT-related trade missions. It has also worked with

PECDAR on several local business environment studies. By the nature of its activities, Paltrade tends to pursue collaborative projects and depends on partnering with firms, institutions, and government to achieve its activities. There is much room for improvement and as with other business support organizations, the limited capacity can be mitigated by collaborating more with other organizations, and pooling resources to achieve common objectives.

Potential Role in Business Incubator: Paltrade can play a key in the incubation of ICT-related businesses, especially in the later stages of a firm's life cycle. As a firm establishes adequate market presence with well-developed and competitive products and services, Paltrade can provide access to global market intelligence, help promote local firms through trade shows, assist in the identification of potential regional and global partners for local firms, and other business development activities. They can actively work with companies one-on-one to expand their market networks. Paltrade has already partnered with such industry organizations as PITA in order to promote local companies at regional tradeshows. Much more can be achieved in this regard by expanding the local organizations that Paltrade works with, as well, as working more directly with firms. Depending on the life cycle of the firm, it may be appropriate to have a representative of Paltrade on some of the advisory boards assisting incubator clients. Paltrade will also benefit by working with incubator clients as these activities will help build up its capacity as well as enhance its credibility with overseas firms.

Birzeit University

Mission: The University plays a central role in developing the most valuable Palestinian resource—human resources. Birzeit has recently strengthened its commitment to serve the IT industry. New graduate and undergraduate programs in information technology, engineering, sciences, social policy, economics and management are being developed to assist in meeting this objective. The University campus is also being expanded to better equip the University to meet the growing needs of higher education of the Palestinian society. At the same time, Birzeit University's various community Centers and Institutes continue to enhance and develop their work through intensive policy-oriented research to assist in the economic, social and human development of West Bank/Gaza.

Core Competency: Birzeit's core competency is the preparation and training of graduates to feed local industries including IT. Other universities such as Al Quds University and Al Najah introduced Computer Science degrees earlier (1987 and 1991 respectively) but Birzeit is strong in Math and Electrical Engineering fields, with a minor in Computer Science, later upgraded to a Bachelor degree (1994?). In 1998-1999, there were 80 students enrolled in Computer Science program, almost double the number in 1997-1998. IT industry employers hold Birzeit university graduates in good regard. Business graduates are also valued. The third faculty to be established in 1978, the Faculty of Commerce and Economics is currently the third largest faculty on the Birzeit University campus. Student enrollment has reached 969 students, with students working toward a Bachelor's of Science degree in one of the Faculty's four programs offered by its three Departments: Economics, Business Administration and Accounting. In addition to the Business Administration program, the Department of Business Administration also offers a program in Banking and Financial Management. The faculty prepares students to work in the private sector and in governmental and non-governmental organizations. The *Department of Electrical*

Engineering offers a Bachelor's of Science degree with concentration in one of the three areas offered: Communications, Computers and Control and Power Engineering.

Staff Resources: Although the staff resources are limited by international standards, Birzeit has recently enhanced its capacity in IT teaching and training.

Financial Resources: Limited.

Relevant IT-Related Activities: Birzeit University boasts of being one of the first institutions to play a leading role in the development of Information Technology in West Bank/Gaza. The Birzeit Information Technology (BIT) Unit, established in 1997, is a division of the Computer Center at the University. Over the years the Computer Center has evolved significantly, offering services and support in the field of information technology to the University as well as the Palestinian community at large. BIT was established to participate in the development of an IT strategy for Birzeit University, develop programs that contribute to the development of IT within the Palestinian community, play an active role in shaping the Palestinian IT sector and build industry partnerships and alliances with other key players in the IT sector.

One of the primary functions of BIT has been the development of advanced professional training programs that aim to qualify trainees to receive international diplomas in IT. BIT offers several industry standard certifications. BIT is currently the CISCO Regional Academy in West Bank/Gaza; it is a certified Microsoft Academic Partner and has an advanced HP Networking workstation laboratory. BIT is also an Authorized Prometric Testing Center, and part of the Sylvan Testing Network, which is the world's largest provider of IT testing. BIT is authorized to conduct exams for Microsoft, Novell, Cisco, HP, Oracle, A+, Network+, and IBM, SUN Microsystems, Unix, Linux, and others. BIT has developed strong teaching and technical teams within the University that consist of professors, engineers, programmers and technicians working at the various departments, centers and institutes of the University.

In the coming year, BIT is hoping to introduce vocational programs that target various groups ranging from beginners to IT professionals. The aim of these programs is to produce successful graduates who can either apply their acquired skills professionally or move on to more advanced programs.

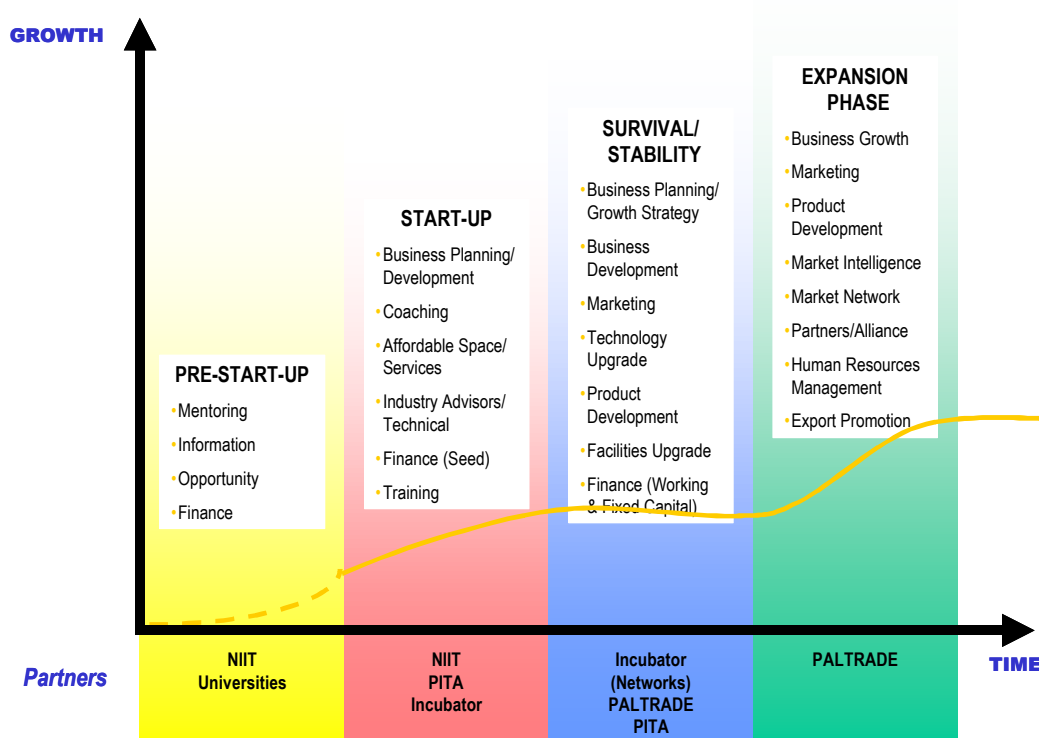
Collaborative Linkages: BIT has established linkages to local IT companies and draws upon their resources for trainers, expert support, and for the direction and development of cooperative programs. BIT has also initiated an Institutional Development Program targeting the public sector and non-governmental institutions. The objectives of this program are to work with targeted institutions to develop their IT capacity. The Development Program works to increase staff utilization of existing systems, analyze needs and systems requirements, develop specifications and either carry out the actual work or provide the specifications to the institutions' IT department to implement.

Potential Role in Business Incubator: Birzeit's BIT is in the early planning stages of developing an IT incubator program with the ultimate aim of establishing a technology park within the University campus. The development of a university-related incubator would be a

welcome addition to the current environment and would in fact complement and support the proposed incubator. Regardless of whether this incubator is realized, Birzeit still has an important role to play in supporting the proposed PCTI incubator. As a well recognized and appreciated hub of qualified professors, teachers, technicians, and students, Birzeit can play an important role in preparing and training entrepreneurs and in providing specialized technical and business services to incubator clients. Incubator management can work with the university to leverage existing programs (Institutional Development Program) and can develop joint programs with Birzeit to deliver customized training workshops and programs to clients. Individual professors and departments can also serve as important members of advisory boards or as consultants to individual firms. Student interns can staff the incubator or support specific firms or projects. Additionally, PCTI could choose to utilize some of the on-site resources available at the campus. Birzeit can also play an important role as a partner to NIIT in its entrepreneurship training and preparation.

The following illustration points out the different partners and their roles in the life cycle of a firm.

FIGURE III-3
ENTERPRISE START-UP LIFE CYCLE AND SUPPORT SYSTEM



Demand for IT Incubation

A successful incubator must emanate from the demand for entrepreneurship support and assistance from the region's private sector while being adapted to the region's capacity for mobilizing the necessary resources to respond to this demand. Consequently, a collaborative process involving all stakeholders provided the key method for conducting market feasibility and for conceptualizing the mission and structure of a potential IT incubator.

The concept of an incubator is being floated by several organizations: NIIT, Birzeit, Peres Center for Peace. The proposed Khadoury Technology Park project was also -designed to include an incubation component. There is significant institutional and industry interest in establishing an incubator and in utilizing it to catalyze IT industry. This interest is motivated by the perceived gap in the provision of business development and support services. Previous consultations with industry during the course of economic and industry assessments substantiate this perceived gap in the local market. In addition, as discussed below, consultants for this project conducted focus groups with industry in order to gauge demand. The primary outcome was significant interest and demand for services provided by an incubator. These consultations along with an assessment of the economic and business environment confirm a need for incubation services. The core issue is how to create a viable, eventually self-sustaining incubator that addresses the significant market gaps in a particularly challenging environment.

Building on the concept that a potential incubator would serve the whole IT cluster, a series of one-on-one interviews and focus groups were held to solicit input and feedback from a broad range of stakeholders representing exporters, suppliers, as well as economic foundations. See the Appendix for a detailed list of participants in the individual and group meetings.

In general, there is strong demand for an incubator from both the industry as well as foundations. Both sets of stakeholders feel that an incubator could help address many weaknesses and barriers now slowing down, if not thwarting the development of the IT cluster in West Bank/Gaza. Stakeholders believe there is a viable IT strategy in place but that its implementation is slow and businesses meanwhile need immediate assistance.

Market Feasibility of ICT Incubator Demand

In terms of demand for on-site space, many of the stakeholders involved in the interviews and focus groups already have secure quarters, and only a handful will be interested in physically relocating to access services and resources. Higher demand for on-site tenancy is likely to come from non-PITA members—potential entrepreneurs including independent contractors who now work out of their homes or from those who work in less than ideal facilities or far from business activity centers. Based on interviews with the stakeholders who are networked with independent contractors and potential entrepreneurs, it is likely that there is significant demand from this group. Furthermore, there is likely to be a demand from firms that now do have offices established but who would like to take advantage of on-site services. This will of course require that the proposed incubator encompass value-added services that are not found elsewhere. As a conservative estimate, 10% of PITA's members are likely to be interested in incubator space. Another 25% are likely to be interested in specific programs or services such as legal services, training, marketing, or financing services.

In the longer term, demand for incubator space will come from the education pipeline –the colleges, institutes, and universities in the region. As is the case around the world, some of the most entrepreneurial talent, the potential Gateses and Dells of this world, can be found in the halls of universities and colleges, even in halls of high schools. Fortunately, many of the educational institutions in West Bank/Gaza are establishing or scaling up their IT related education and training. However, much more needs to be done. Demand is outstripping supply and the quality and range of courses needs to be improved. Only 8.13% of courses in higher education institutions are related to IT and programs offered are confined to traditional areas of computer science and engineering. IT components in general offerings within the vocational training and vocational secondary levels are absent or weak at best. This gap must be addressed if a strong, competitive ICT cluster is to emerge. Without such improvements, demand for incubation space and services will not rise to the critical level required for a truly robust and growing ICT sector.

Existing strategies to address these deficiencies and improve the overall educational system need to be implemented. Doing so will expand the pipeline of potential entrepreneurs, provide the necessary talent for companies, and improve the overall quality and standard of industry products and services.

TABLE IV-1
NUMBER OF STUDENTS ENROLLED IN PALESTINIAN UNIVERSITIES IN 1999

| Field | Males | Females | Total |
|-------------|--------|---------|--------|
| All Courses | 31,192 | 24,421 | 55,613 |
| Science | 4,516 | 3,621 | 8,137 |
| Engineering | 2,546 | 1,007 | 3,553 |

Location

There was general consensus among participants that Ramallah is the most appropriate location for the proposed incubator. However, it should be noted that almost all the participants were located in the West Bank, and in Ramallah and its environs in particular. For the incubator to be successful and serve as an anchor for a competitive IT cluster, virtual services provided by the incubator must be of high-caliber and must be accessible to Gazan and other firms.

Services

The IT cluster firms and stakeholders are well aware of the challenges faced by their cluster and their individual members. As such, there was agreement on the types of services required by firms and those appropriate to the activities of an incubator. The services most in demand fell into the following categories:

- Business Development and Sales
- Market Research, and Marketing
- Management
- Finance
- Legal Services
- Quality Assurance Evaluation/Enforcement

This mix of services is typical of services requested by start-ups and small firms. Small firms often do not have the resources required for market intelligence or development and have a greater difficulty in securing financial resources. However, while these services are important and are typical elements of the portfolio of services provided by incubators, firms often do not place adequate importance to other services including product development, and organizational development. These two elements for example are usually critical to using marketing intelligence well and to securing financial resources. The provision of these and other related services must be provided in a cost-effective manner, as private sector stakeholders are sensitive to the costs of such services. While they require these services and are willing to pay fees, they also have limited resources that are often stretched in several directions.

Creation of an Enabling Environment

In addition to meeting with private industry stakeholders, consultants met with several organizations and associations that are involved in IT industry activities. These include:

- PITA
- NIIT
- Birzeit University
- Ministry of Industry
- Ministry of Economy and Trade
- Gaza Director for Palestinian Federation of Industries

In terms of the incubator and its role in helping improve the breadth and functioning of the economic foundations supporting the fledgling IT cluster, stakeholders focused on the need for better support in three key arenas: education, finance, and government.

Education

Despite the predicament of the West Bank and Gaza and their increasing economic isolation over the past 2 years, the stakeholders believe that there is a talented and skilled workforce to fuel the IT industry. However, these skills are below regional (Arab) standards and definitely lag behind international standards. It is estimated that the average Palestinian IT professional lags 18 months behind his regional counterpart in terms of knowledge and skills. As aforementioned, the relative isolation of West Bank/Gaza accounts for a portion of this gap; the other portion can be attributed to the educational system. Many stakeholders indicated the need for re-engineering the IT-related educational system. Meanwhile, some stop gap measures to improve the level and skills of IT students include building stronger relationships between industry and education, integrating more students into IT internships, and offering better, more, and earlier training to students. These short-term measures to improving training and on-the job experience, as well as longer-term education improvements are key to both raising the competitiveness of the ICT cluster as well as increasing the pool of potential entrepreneurs requiring incubation services.

Finance

There is a perceived shortage of capital for enterprise formation, expansion, and for specific activities such as R&D, product development, partnering activities, and marketing efforts. Many firms rely on traditional sources for the financing of their operations. Banks have played a small role and are averse to providing loans to businesses with little physical assets and “intangible”

products and services like software and consulting. There is a great need to work with banks to develop a better understanding of IT business models, risk assessment and management, value assessment of intangibles and the like. A proposed incubator that is designed to reduce the risk of enterprises and provides cost-effective measures to “better the odds” for the survival and growth of businesses may catalyze banks to provide more customized loans to incubator members.

Government

There is a general recognition that the private and public sectors are strongly interdependent and that the public sector has a strong role to play in fostering the ICT cluster. The private sector would like to see the passage of more investment friendly laws that provide incentives for foreign and local investment. The West Bank and Gaza Strip have several key elements that may help to attract internal and external investment in the ICT sector. These include talent availability, labor costs, proximity to a potentially large Arab market, an extensive global network of Palestinian expatriates that may be leveraged, and generally strong work ethic. Currently, the level of foreign investment is quite low. The overseas investors to date include HP, Oracle, Grunenthal, Nestle, Siemens, Timex - attracted by skilled labor and competitive cost structure. Texas Instruments, Intel and Philips are indirectly investing by out-sourcing services.

However, the level of investment and the roles of these investments may not be maximized to their full potential. There is general agreement of the need for the government to exert extra effort in this arena. The government needs to play a greater role in attracting investment and in creating the mechanisms to leverage and link these investments.

There were some misgivings expressed by the private sector towards the encroaching role of government and nonprofits in the training arena. Over the past few years, several firms emerged to cater to the growing demand for IT education and training. Many NGOs and even government-sponsored departments have begun to offer internal and public training courses. As such, the private sector perceives these offerings to be unfair competition. In developed countries, although there are certainly recurring issues of competition between private and public sector in particular arenas, in general, government and non-profit training services arose to fill the gap in geographically or demographically underserved areas. There is a perception by the private sector that the market as it stands is small and limited and that government and nonprofits should minimize their role to the few exceptions where private sector is truly unable to meet demand. As a first step to resolve this issue and improve collaboration between the public and private sector, government, non-profit organizations, and private firms should meet and discuss mechanisms to complement each of their services and minimize overlap or redundancy. There is a large continuum of services that can be offered in West Bank/Gaza and significant current gaps in provision. Through a series of workshops, these stakeholders can map out the current and potential market for IT training and design a pipeline of education and training that leverages the capacity and resources of each provider. As a potential anchor for the IT cluster, and as an important partner to both government and private sector, the incubator can play a lead role in clarifying the training landscape and developing strategic partnership between the players.

PICTI Business Plan

Vision

The Palestinian Information and Communications Technology Incubator (PICTI) will become the premier “bridge to the marketplace” for the Palestinian ICT industry. It will be the anchor and catalyst for the ICT industry cluster, serving as a focal point for the industry’s entrepreneurial activity and energy. Over the next five years, PICTI will establish itself as the premier hub for established and young ICT entrepreneurs trying to expand their businesses, improve quality standards, commercialize products or ideas, or those simply looking for intermediaries to assist in identifying partners, investors, or financing. PICTI will be a market leader in the provision of quality business services and will offer the largest local and international network of business consultants and expertise in the West Bank and Gaza and one of the largest in the Middle East. It will also become a model for successful incubation both locally and regionally and will partner with other organizations to establish a network of incubators across the region.

Mission

The Palestinian ICT industry is characterized by several positive features that render the potential for this industry to become a competitive regional player very strong. The vulnerable aspects of this industry, aside from the security situation, center on three issues: lack of capital, especially risk capital; lack of business management and innovation; and lack of access to regional and global markets.

The incubator can help bridge these gaps by building the capacity of the firms to respond to opportunities in the market as well as addressing the need for specialized capital, knowledge and access to global markets. With adequate resources, and the right management at the helm, PICTI can be the critical intermediary in IT—a financing broker, a management broker, and a marketing/sales broker.

The Palestinian Information and Communications Technology Incubator is designed to achieve several economic objectives, namely:

- Provide a conducive environment for the nurturing and growth of Information Technology enterprises;
- Provide a conceptual and physical anchor for an ICT cluster and serve as an important catalyst to the development of a competitive ICT cluster with the breadth and depth to compete locally, regionally, and ultimately globally;
- Encourage entrepreneurship in the ICT industry by providing easy and affordable access to individuals seeking assistance.

In order to achieve the aforementioned objectives, PICTI will:

1. Provide affordable, state-of-the art physical facilities for housing IT enterprises coupled with affordable and shared administrative and clerical services,

2. Provide a network of business services for both on-site and off-site clients; these services will include access to high-quality consulting services on legal, accounting, financial, management, marketing, and other business services.
3. Encourage collaboration among existing firms and assist firms in pooling resources, establishing joint initiatives, and pursuing joint alliances and partnerships.
4. Serve as an anchor for entrepreneurs seeking assistance in commercialization of technology, in business development and planning, in marketing, and in gaining access to local, regional, and global markets.

Market Strategy

To ensure success, incubator management should pursue a multi-phased market strategy to transition it from a fledgling institution focused on establishing credibility and an initial position in the market to an established business institution expanding its Middle East and global networks and partnerships. There are three proposed alternatives for establishing PICTI. Alternative 1 and Alternative 2 put forth physical incubators that provide both on-site and virtual services for on-site and virtual clients. Alternative 1 leases space for the incubator while Alternative 2 includes the purchase of adequate space to include both incubator and commercial clients thus ensuring an additional source of income to subsidize incubator activities. Alternative 3 is a short-term solution to launching an incubator given the present security situation. Alternative 3 is a purely virtual incubator with no physical incubator site or tenants. These three alternatives are discussed in more detail below.

For Alternative 1 and 2, the marketing strategy for the incubator portion of the proposal will be similar. The following phases illustrate the 3 sets of activities that need to take place. They are interdependent and overlap each other in an effort to create a sound foundation for the incubator well into the future.

Phase 1: Launching PICTI

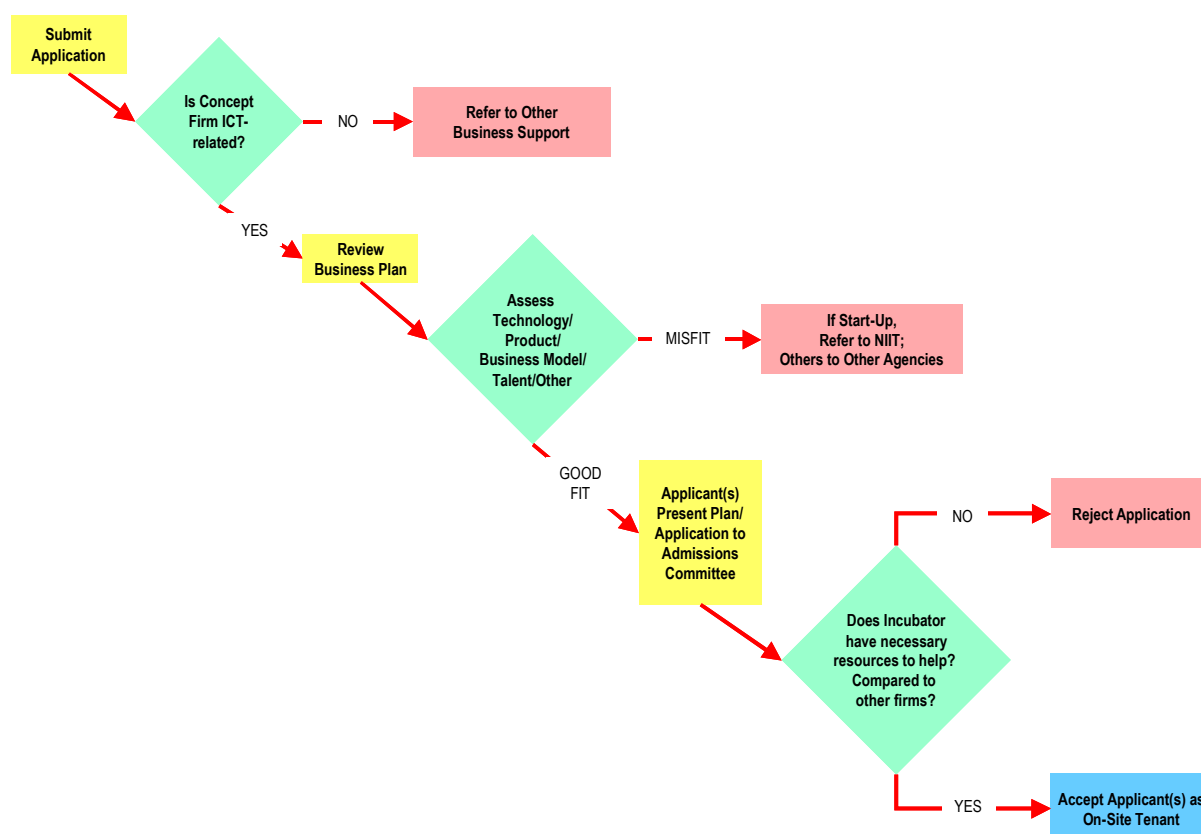
In the first year, PICTI will focus on **recruiting** existing small and medium-sized, young IT firms that require assistance in advancing their business. These firms are likely to be PITA members who are small though established in terms of products and services and who require assistance in management, marketing, sales, product development, and financing.

It may be useful in the first year for management to focus on realizing some of the goodwill and exposure gained at the aforementioned Gitex exhibit in Dubai. Regional companies approached several Palestinian firms. Incubator management can focus on working with these firms to secure some early, tangible wins. These early wins can be critical incentives for other entrepreneurs to join the incubator.

For on-site tenants, priority should be given to software design and programming firms as they represent higher value-added segment of the IT value-chain. Firms that currently focus on coding for example may be able to expand local markets but have a product that is labor-intensive, requires relatively lower skill levels, is lower margin and is more difficult to export. Such firms of course can use current services and products to develop higher value products and services

and can do so by using the local market as a test bed. However, the incubator needs to focus on firms with the greatest potential to succeed and export over the next three years; these are likely to be firms that already have some presence in the export market or have some products and services along the higher segments of the value chain. To ensure the recruitment of firms that meet the eligibility criteria of the incubator and that “fit” overall mission and resources of the incubator, a rigorous admissions process must be instituted. The figure provides a guide for a client screening process. There is no need to be as selective in the recruitment of off-site tenants, and in fact, building a broad base of support among the IT community is essential.

FIGURE V-1
APPLICATION REVIEW PROCESS FOR ON-SITE TENANTS

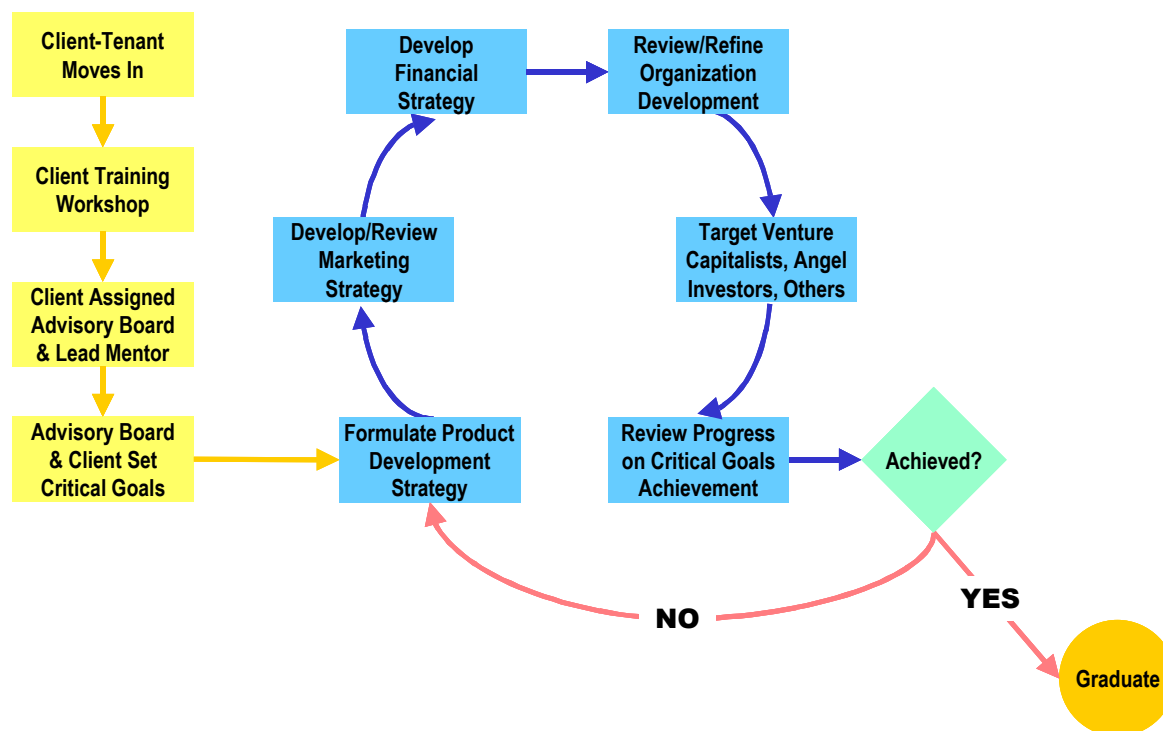


Also in the first year of the launch, the incubator’s management must exert extraordinary effort to “plant roots” in the region by actively seeking out potential collaborators, partners, associates and friends among government, institutions, industry, and the community at large.

Phase 2: Building Up Operations

In phase 2, years 1-3, PICTI will assist local businesses serving the local markets. It is anticipated that once the political situation improves, the West Bank/Gaza government will procure significant ICT services for government, education, health, industry, and trade activities. The local firms have the talent and capacity to fulfill these needs. These activities can serve as a natural “test bed” for testing and improving locally customized and designed software and services and for upgrading these products to meet regional and international standards.

**FIGURE V-2
ENTRY AND GRADUATION PATH FOR ON-SITE TENANTS**



In order to access these potential procurement opportunities, the incubator management must play a more active role than is usual for counterparts elsewhere. As aforementioned the majority of IT firms in West Bank/Gaza are quite small with limited staff and capacity. Often, bidding on larger projects is beyond their means. Consequently, the incubator management, essential as an intermediary, must work with IT businesses to assist them in pooling their resources and capabilities in order to bid on larger projects. This may entail limited joint agreements to cooperate on marketing or product development for example, or may be wider in scope and lead to the merging of companies. The incubator management, along with important partners like PITA, need to work closely with IT firms, improve their face-to-face networking, raise awareness and knowledge of the firms' capacity and competencies, create joint opportunities and encourage a higher-level of cooperation and collaboration in general. In the process of doing so, the incubator, working with PITA, can help industry members map out their cluster and understand the market gaps and weaknesses within their cluster, as a means to encourage more innovative development of products and services and nudge them towards higher-value added activities or encourage new entrants to fill market niches. The incubator and PITA may also need to work with industry on establishing an *on-line buyer-supplier exchange* as a means to improve the ability of local firms to cooperate and as a mechanism to improve access to these firms from outside the region.

Smaller firms often have a more difficult time forming partnerships due to limited legal counsel, perceived costs, limited knowledge of potential, and fear of losing control or being overtaken by

competitors. Working with lawyers and accountants, the incubator can help small firms overcome these obstacles and establish legal vehicles for pooling the capabilities of their firms. A priority for the incubator in the first 2 years should be the development of a framework to facilitate this type of collaboration accompanied by detailed handbooks. Pooling resources will also improve these firms' access to regional markets.

Phase 3: Fostering a Globally Competitive ICT Cluster

In years 2-5, the incubator management will need to expand both its local and international outreach and collaboration activities in order to strengthen the whole ICT cluster in West Bank/Gaza and foster a globally competitive ICT cluster.

While the incubator management will ensure easier and better access to local opportunities that can benefit the vast majority of IT firms, it must also pay attention to the opportunities in the region's Arab markets. There are several firms that are well positioned to penetrate this market if provided with the necessary assistance in marketing, exporting, product development and packaging.

In addition, management will focus on expanding international network and actively seeking out strategic global corporate partners who can invest directly, outsource work, partner with local firms on projects thus transferring knowledge and building up capacity, and serve as critical sponsors of relatively small-scale R&D and innovation.

Market Potential

The physical incubator proposed under Alternative 1 and 2 will provide 3 types of spaces and services:

1. On-site office space for on-site tenants;
2. Hotel offices (i.e., flexible office space not assigned to any one individual or company) for individual entrepreneurs who are still part-time entrepreneurs (holding on to secure jobs as they try to grow their businesses into a sustainable practices);
3. Shared office and support space for the use of both on-site and off-site tenants.

In terms of the on-site tenants, it is desirable to have a few permanent tenants that serve as anchors for the incubator and guarantee a minimum occupancy level. These tenants ideally would be service providers for on-site and off-site client firms. These include firms or branches of firms that offer legal counsel, product packaging and promotion (advertising), financing, training, or other types of business consulting. Management should focus on recruiting these permanent tenants in the first year of operations.

The virtual incubator services provided in Alternatives 1,2, and 3 consist of technical services and expertise provided to on-site and off-site tenants. These services consist primarily of financial, accounting, legal, marketing, organizational development, and product development services provided by a network of expatriate and local professionals.

Uptake Rate

There are good indicators of a substantial potential pipeline of tenants. As a conservative estimate, and based on the feedback from stakeholder meetings and the conditions of the market, 10% of PITA's members are likely to be interested in on-site incubator space in the first year. Another 15% to 25% are likely to be interested in specific programs or services such as legal services, training, marketing, or financing services. Table V-1 below compares the uptake rates for the three proposed alternatives for establishing an incubator. The three proposed alternatives are explained in detail in following sections.

It should be noted that these estimates are based on assessment and feedback provided prior to the recent destruction of commercial establishments in Ramallah and other West Bank towns. Given the level of damage to commercial and office space and destruction of much of the information infrastructure, it is quite likely that many more firms are willing to relocate to an incubator that can provide needed infrastructure and services. Demand for space is likely to increase by at least 20 to 25%. However, this growth will be driven by companies looking for immediate facilities so the ability to establish the incubator in the shortest time possible is of paramount importance.

TABLE V-1
COMPARISON OF UPTAKE RATES OF PROPOSED ALTERNATIVES

| Field | On-Site Clients | Commercial Tenants | Virtual Clients | On-Site Clients | Commercial Tenants | Virtual Clients |
|---------------|-----------------|--------------------|-----------------|-----------------|--------------------|-----------------|
| | | Year 1 | | | Year 2 | |
| Alternative 1 | | 0 | 3 | | 0 | 4 |
| Alternative 2 | | 12 | 3 | | 17 | 4 |
| Alternative 3 | | 0 | 4 | | 0 | 6 |

Assumptions: Alternatives 1 and 2 figures are conservative estimates of uptake rates based on market conditions and assumptions prior to recent events. As there are limited resources, it is assumed that for Alternatives 1 and 2 that include on-site tenants, there will be lower priority placed on maximizing the number of virtual clients. In Alternative 3, where the incubator is wholly virtual, resources will be focused on growing virtual clients while establishing a sound base for phasing in on-site tenants.

In addition to the demand generated by established companies who are PITA members, there are an estimated 150 to 200 independent software engineers who free-lance. It is reasonable to expect that a significant proportion of these, with the proper support and encouragement, would establish their own enterprises. Conservatively, at least 10% of these are likely to opt for forming their own firms, with the likelihood of 20 to 25% not unreasonable. The growth of the multimedia market segment renders this latter estimate even more likely. With the convergence of telecommunications, computer, broadcasting, and IT, there is substantial latent demand for ICT products and services locally. While it would be opportune for incubator management to focus on demand generated by the growing industries in West Bank and Gaza—i.e., the industry clusters—which include the financial sector, manufacturing, and agriculture, there are also market segments that cut across these clusters: e.g., information warehousing and archiving

applications, internet-based banking, multi-branch order consolidation and customer account reconciliation.

With adequate sources and experienced management, conservatively, the incubator should reach full occupancy within 2 years. However, as previously mentioned, if the incubator was established quickly, and was among the first to market in the expected reconstruction phase after the recent events, it is reasonable to expect the incubator to reach full occupancy within its first year (for both Alternative 1 and 2). Furthermore, as the reconstruction effort will include procurement of substantial ICT products and services, more companies are likely to emerge and expand leading to the growth of both on-site and off-site clients. If the incubator is successful in creating partnerships with leading professional service providers and maintains access to them at affordable rates, the number of off-site clients should continue to grow by a minimum of 10% annually. In fact, if the incubator succeeds in assembling a high-caliber professional knowledge network, it is likely to face the challenge of excess demand and constrained resources quite early in its life cycle. This likelihood however does not indicate a need for a larger incubator. A successful incubator needs to build strong relationships between the incubator management and its clients and needs to provide an intimate, nurturing environment for the exchange of ideas and solutions. Consequently, it is important to maintain a scale that allows these strong relationships to emerge and grow. However, once PICTI is established and has demonstrated a viable business and operating model, it will be opportune to establish other incubators that complement PICTI and provide additional resources.

Growth Strategy

The proposed incubator is being conceptualized as an integrated component of the regional economy aimed at fostering strong linkages and leveraging regional core competencies. Currently, IT firms are focused on limited parts of the value-chain and on very narrow industry applications, namely finance and accounting, and human resource management. However, for the ICT industry to grow in West Bank and Gaza, it can capitalize on serving existing industries. The local economy can serve as a test bed for IT firms to build capacity, flex their skills, and generate more customized and thus higher value-added products and services.

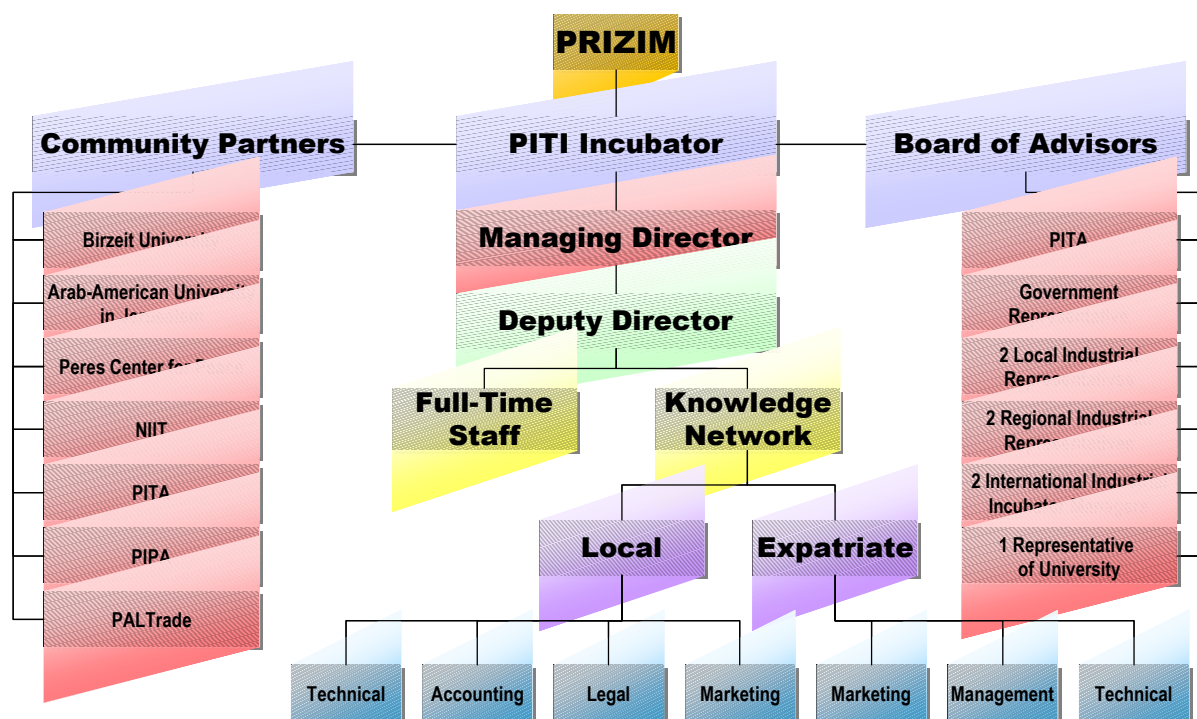
As the regional security situation improves, the Palestinian economy will undergo significant changes. It is expected that the services economy, including tourism, will surpass manufacturing in size. Rationalization and restructuring of textile and garment industries will resume and continue and the productive capacity in the agricultural sector will be reduced with the retention of high-value differentiating products. The importance of all this to the ICT cluster and the proposed ICT incubator is the opportunity that these transformations provide for ICT entrepreneurs. With guidance and market driven strategies, incubator management can forge linkages to these industry clusters and can help entrepreneurs supply specific industries with an expanding portfolio of ICT products and services. Once these products and services are tested locally, firms can expand exports to the Middle East region, and eventually with adherence to international, world-class standards and quality control, they can serve the global market.

Incubator Structure

The incubator, as proposed in Alternatives 1 and 2, is being proposed as a hybrid incubator that combines the features of both a conventional (physical) incubator as well as a virtual incubator.

In its first 3 to 5 years of operation, it should be a non-profit entity operated under the administration and supervision of the PRIZIM program. As the incubator matures and builds up local capacity and credibility, it should be transformed into a separate non-profit entity under independent local management. Local ownership of the incubator is important to the long-term health and viability of the incubator, to building strong, local institutions to anchor the ICT cluster, and to build up the credibility of the local cluster to take charge of its own affairs. The following outlines the general structure of PICTI in its initial years.

**FIGURE V-3
PRIZIM PROJECT**



Management

High-caliber management will be essential to the successful operation and sustainability of the PICTI incubator. In fact, effective management is often the single most important indicator of the potential for success among incubators. The management of PICTI incubator will be a team effort composed of the following:

- Managing Director
- Assistant Director
- Board of Advisors
- Community Partners

Managing Director

The managing director will be responsible for providing vision and direction and for supervising the execution of this vision. Given the state-of-readiness of the region, an internationally experienced director with a substantial international network is required to manage the incubator

in its initial years. The managing director will be recruited from international circles, preferably a director from an existing successful incubator, with a substantial track record.

The Managing Director will be the key to establishing the incubator as a bridge to the marketplace. As aforementioned, the business climate in West Bank/Gaza lacks many of the characteristics conducive to growth and expansion of new enterprises, namely capital, R&D, commercialization mechanisms, and the like. The incubator can be a set up to facilitate access or attraction of these elements to the Palestinian market. This role will be discussed below in further detail.

Assistant Director

The assistant director will be recruited locally. He will be responsible for assisting the managing director in all incubator-related activities. Additionally, he will provide additional liaison to the local IT community and ensure strong coordination and collaboration with local and regional partners. The assistant director will be a managing director in-training, and it is anticipated that as the assistant director builds capacity and experience in managing the incubator, the management of the incubator will be transferred to him or to other experienced local candidates.

Board of Advisors

A Board of Advisors will be recruited from both the local and international community and should encompass both industry representatives as well as the representation of major institutional stakeholders. The Board of Advisors will serve to provide advice and direction to the managing director. Members of the board should be recruited by the managing director and should be restricted to a manageable number in the range of 5-9 members. Suggested make-up of the Board of Advisors is:

- PITA Director
- Government Representative
- 2 local industry representatives
- 2 regional or international industry representatives
- 2 international incubator managers (or 1 incubator manager and 1 venture capitalist)
- 1 representative of university

The Board of Advisors should elect a chairperson, preferably on an annual and rotating basis. It may be useful to recruit Palestinian or Arab expatriates in North America who are prominent members of established high-technology regions such as Silicon Valley and are networked with angel investment and venture capital communities.

PITA has a particularly critical role to play. Driven by the concerns of its members, PITA is a strong supporter of incubation services and recently passed a resolution affirming its support of an incubator to serve its members and the ICT industry in general (see Appendix). PITA can be a key liaison to industry, ensuring that the incubator is responsive to the market demand and at the same time raising the awareness among its members of the benefits an incubator can deliver. Further, as PITA has already established credibility with the private sector and is recognized as a legitimate, valuable private sector representative, it can play an important and visible role in recruiting regional and international industry managers and advisors to serve on PICTI Board of

Directors. PITA can also play a valuable role as a liaison to other industry or professional associations, such as Wood Manufacturing Industry or financial industry professionals in order to increase networking activities among different local industries and open up new markets and venues for local ICT products and services.

Staffing

Chief Marketing Strategy Officer

While incubators in general often offer marketing consulting services and expertise to client firms, in the case of PICTI strategic marketing services will be essential to its survival and its ability to attract tenants and clients. As the vast majority of Palestinian IT firms lack business development and marketing know-how, skills, and networks, the incubator can and should play a leading role in helping to bridge this gap. In addition to providing training in management and business to clients, there will be a chief Marketing Strategy Officer who, as a full-time, internationally networked individual, is responsible for the development and coordination of all business development and marketing strategy for incubator clients.

This individual must have the experience and track record to serve as the chief architect of the marketing and growth strategy, focused on expanding markets for existing and potential clients. The chief marketing strategist will have a key role in providing added value to individual client firms and in helping the incubator forge strategic regional and international alliances that can enhance its credibility.

More specifically the Chief Marketing Officer will undertake the following:

1. Develop, execute, and monitor the incubator's market and growth strategy in cooperation with the Managing Director and Assistant Managing Director;
2. Serve as public relations officer representing the client firms, their products and services, as well as their capabilities to potential local and international investors;
3. Serve as a marketing broker helping to pool or merge firms and resources, helping firms to bid on larger projects, add value-added products and services, and expand markets;
4. Explore and pinpoint international angle, institutional, and venture capital investors and partners and serve as the investment (broker).
5. In conjunction with PITA, serve as liaison to local government (Palestinian Authority), helping to keep track of existing and potential procurement opportunities for local IT services.
6. Serve as liaison and promoter for regional Arab market.
7. In conjunction with PITA, help foster the emergence of an IT cluster along with a distinct Palestinian IT collaborative culture with a clear, differentiable IT identity and brand.

The incubator can serve as a catalyst to the fostering of a strong IT cluster and thus to the enhancing competitiveness of this industry and the region. The incubator can serve as catalyst by:

- Partnering with PITA to grow the IT industry association, explore mechanisms to include independent free-lancers, and institutions.
- Partnering with local government and local institutions to create specific collaborative initiatives focused on better responding to needs of IT community. There is, for example, an immediate need to work with the financial community on creating financial instruments to provide more significant and stable sources of financing for IT firms- beyond the procurement of equipment to financing for enterprise expansion, R&D, and product development.

Office/Facilities Manager

A facilities manager will be responsible for supervising office operations, cleaning, and maintenance as well as maintaining compliance with licensing, and other municipal regulations.

Support Staff

In addition to the above staff, the incubator requires a number of support staff. An IT manager will be responsible for maintaining the IT infrastructure and assisting staff and client with IT tools. Two secretaries will be available; one for supporting incubator staff, the other for supporting on-site clients. An accountant will supervise the accounting for the incubator. An office boy will provide services as requested by staff and on-site clients. There will also be several student interns that can assist both incubator staff and on-site and virtual clients.

Physical Infrastructure

The incubator requires approximately 1500 square meters. This space will incorporate 1100 square meters of office space, providing 8 to 10 offices ranging in space between 70 to 120 square meters. These estimates are based on current market conditions and current office space requirements of smaller ICT firms. There are several options for the utilization of this space. The objectives of designing the space are to:

- Provide flexible space that can be scaled up or down to needs of clients or at the very least offers some options in office size in order to meet the needs of different clients and allow PICTI management to implement a growth strategy.
- Provide secure, well-furnished, “smart” office space for on-site incubator clients that on average will require 2 years to graduate.
- Provide larger office space for “anchor tenants” –firms that are permanent or long-term tenants and who provide professional services to the ICT cluster. These anchor tenants can be larger consulting firms, like PWC, law firms, advertising, or marketing firms for example.
- Provide flexible office space for off-site clients requiring use of on-site facilities or services or for use of visiting consultants.

- Provide common or shared space that meet the administrative, clerical, conference, research, and training needs of on-site and off-site clients.

Of this, 1100 square meters will be dedicated to furnished office space, and approximately 400 to shared or common areas. As most of the on-site tenants are likely to be smaller companies, the incubator can offer 8 offices in the range of 70 to 80 square meters and a few larger offices in the range of 100-120 square meters. One or two of the smaller spaces should be reserves for “office hotels.” These offices provide flexible room for use by off-site clients, for visiting technical/professional advisors, and for future establishment of additional services or help desks.

It would be desirable to have 2 or 3 anchor tenants (permanent or long-term on-site firms) located at the incubator at least for the first 3 to 5 years as the incubator builds its clientele and position in the market. These permanent on-site firms should be firms that offer services to potential clients. Consequently, encouraging international consulting offices such as PWC or the like to establish a small office or other firms that have substantial business with local government is desirable. Also, local firms that provide legal, accounting, technical or management consulting services would be ideal candidates.

Shared space will be dedicated to the following:

- A “smart” conference room with a smart board, web and video conferencing capabilities;
- A seminar or training room with an additional smart board and with three projections systems: transparency overhead, a computer based LCD projector, and a 35 mm projector.
- A computer room with capacity to accommodate several general-use PCs or laptops.
- A library.

Professional Services and Programs

The incubator will provide a continuum of value-added services to on-site and off-site tenants, including:

- Shared Clerical Services
- Client Management/ Coaching
- Business Development and Entrepreneurial Training and Coaching
- Knowledge (Professional) Networks
- Deal Generator /Investment Broker
- Professional Facilitation
- Virtual Accelerator Program/Services
- M2M Program- Mentor to Mentored Program (Internal and External Firm-to-Firm)

Most of the above services are valuable but well-known services that require little elaboration. The following services and programs will play a crucial role in providing higher-end services to clients and, if successful, will ensure the sustainability of the incubator well into the future.

Knowledge Network

One of the most value-added services an incubator can offer clients is access to seasoned expert professionals in law, accounting, financial services, management, technical assistance, marketing, advertising, and other professions who are willing to provide services and expert advice to the incubator clients. Without these services and some of the technology and training transfer, most incubators would be relegated to a typical low-level business assistance center. These experts or consultants are typically well established in their fields with significant years of expertise and industry networks. In North America, these consultants usually offer their services to the incubator's clients on a pro-bono or discounted fee basis; they do so with the anticipation that they are growing their future clients. This is an unlikely option in this region for a variety of reasons. Furthermore, given the nascent state of IT –related foundations, PICTI's professional services network of experts will have to be recruited from both within the region as well as internationally.

The knowledge network should be accessible through several points of contact: in-person appointments and walk-ins, or virtually, through the web or by telephone or fax. To facilitate in-person appointments and walk-ins and as the incubator management builds up the talent pool available to both its off-site and on-site clients, a rotating **help desk** can be established. With a help desk, certain days would be designated for specific types of technical assistance. For example, Mondays can be dedicated to legal assistance, Tuesday for accounting and so on. On those days, several firms would share (i.e., rotate) the responsibility for “staffing” the help desk. Note the “help desk” would also include the virtual points of access and thus the firm staffing it would be required to cover all points of access. Clients could set up appointments or walk –in. In general, it would be beneficial and more appropriate to use the help desk to provide free, preliminary advice to firms. Subsequent and more detailed assistance would require remuneration by the client.

Investment Broker/Deal Generator

The incubator can assist in improving the deal generation and investment placement related to the ICT industry.

- Entrepreneur Boot Camps
- Deal Generator Program
- Angel Network
- Venture Capital Forums

The forging of a network of potential local, regional, and international investors will be key to the advancement of the client firms and their graduation from the incubator as well as to the ability of the incubator to grow its entrepreneurship pipeline. However, before the incubator is able to attract investors it will have to improve the quantity and quality of potential deals –i.e., the business plans. **Entrepreneur Boot Camps** can help existing and potential entrepreneurs become more business-savvy and refine management and presentation skills. **A Deal Generator** program or workshop can help screen potential deals—selecting deals with the highest potential for investors and sending the rest back to the drawing board. The formation of an **angel network** will locate angel investors and non-local individuals who are interested in investing directly in

Palestinian IT firms. ***Venture Capital Forums*** can bring together IT firms requiring investment with potential investors from around the world.

Entrepreneur Boot Camps

Entrepreneur boot camps are essentially greatly accelerated, compressed, rigorous, training camps for entrepreneurs. Participants undergo accelerated training, usually anywhere from 4 to 10 weeks in entrepreneurship training, business planning, and capturing markets and investment. At the end of this intense training, participants take part in a rigorous, challenging business plan competition. They are asked to develop their own business plans within a short period of time (as short as 24 hours) and then to present their business plans to potential investors. Many participants do not survive this often nerve-wracking, intense experience but those that do often find the experience and training valuable and key to improved knowledge, confidence, and performance. There are many variations to these boot camps but a particularly good example to emulate is DevStudios in Edmonton, Canada. DevStudios has a business model that combines training with incubation services and is a good fit with PICTI's vision.

Deal Generator

A deal generator program aims to screen potential deals in order to identify those with the highest potential early in the process. By having this program, and assuring potential investors of quality control screening, more investors are likely to participate. Also, identifying weaker deals early in the process allows the incubator to focus energy on those with the highest probability of success while redirecting weaker business propositions to other avenues for assistance (for example the entrepreneur might be asked to undergo retraining, participate in a boot camp, or enroll in other entrepreneurship training programs). A deal generator is similar in process to a boot camp although less intense and concentrated. Participants enroll in a workshop or program, receive group and individual training in business planning, then prepare and present their business plans to a group of critics for feedback. This feedback group includes investors, incubator management, and others. The best presentations are then chosen and provided with customized services to help match them with appropriate investors. There are hundreds of screening programs and many incubators have adapted their own versions.

Form Angel Investors Network

Due to the virtual absence of venture capital in West Bank/Gaza, the focus of the Chief Marketing Officer in the first 3 years should be placed on accessing angel investors in North America and Europe and on forming a stable angel investors network. An angel network is a network of high-worth individuals who have the wealth and income to invest in projects and who have the interest and inclination to seek out investment projects that fit their interests in technology and business. Initial efforts can focus on networking with Palestinian angel investors in the U.S. and Palestinian expatriates in North America (starting with Silicon Valley, San Diego, Houston, Austin, Ottawa, Boston) who work in technology sectors and have an interest in investing in West Bank/Gaza. The forging of this angel network will not be an easy task in the absence of a credible peace process. However, if the situation improves and the incubator can demonstrate its ability to help firms improve their competitiveness and ability to expand markets, more angel investors would be willing to bear the risk. As a first step, the Marketing Office can contact venture capitalists in the US and Arab organizations in high-technology areas to begin networking with potential angel investors and sponsors.

Host Venture Capital Forums

As PICTI matures in the first 2 to 3 years, its managers can begin to focus seriously on hosting periodic venture capital forums to bring together potential venture capital firms with entrepreneurs. There is little venture capital available to West Bank firms. As discussions with diverse venture capitalists confirms, VC firms are unlikely to pay attention to a particular geographic area until there is significant deal flow to warrant their attention. The director and marketing manager will need to network extensively with North American venture capitalist to locate firms and individuals interested in investing in the region. Initially, it will be difficult to host substantial venture capital forums. It may be easier to invite prominent venture capitalist to provide advice and oversight to client companies and to serve as a liaison to introduce these firms to VC abroad. Venture capitalist can also play a critical role by working with management to educate local angel investors on the placement and management of technology investments, on devising risk assessment and management of these investments, and on realizing higher rates of return. The incubator will have to host several workshops on such topics in order to educate angel investors, institutions, and other interested parties in investing in technology companies. Although investment flows rise and ebb in the West Bank due to the volatile political and economic conditions, there is substantial capital ready to flow to worthy projects. Unfortunately, in the West Bank much of the investment has gone into real estate or traditional industry as these investments are tangible, easier to evaluate and are perceived to be “guaranteed.”

Grow Foreign Direct Investment (FDI) by Global ICT Firms

In addition to formulating an angel network, the Marketing Officer needs to work with the Managing Director to increase foreign direct investment in West Bank/Gaza. FDI will be essential to local competitiveness, to transfer of technology, and to the expansion of the global network of partners and alliances. Microsoft, Oracle, and Lucent have made some substantial investments in the Middle East region and if presented with a more investment-friendly and secure environment, may be able to increase their local presence in West Bank/Gaza. This may include firms who wish to partner on specific initiatives, products, services, or who may want to establish R&D facilities.

The existence of the Timex R&D facility will serve as an important “proof-in -the pudding” evidence for potential investors, but nevertheless the marketing strategy officer will have to work closely with ICT firms and the government to put forth credible, potential enterprises. If the security situation improves, it will be easier to access a network of Palestinian expatriates who own firms or are in prominent positions in North American and European high-technology companies. Also, it may be useful for the marketing officer to target regional (Middle Eastern) firms with a track record of investing in the region. As such, it is reasonable to place initial effort on Jordan and Turkey for example that have made significant investments in the region and are forging alliances with diverse firms.

M2M Program

As aforementioned, a majority of ICT firms were formed in the last 5 years by primarily technically-oriented individuals. Few owners or founders of ICT firms have the required business and management skills and even fewer firms have access to substantial research and marketing intelligence budgets to help them keep track of competitors, global trends, or

technology innovations. As such, many of these firms are unable to or fail to take advantage of opportunities to expand their business. A mentorship program matches a small firm with an established firm in an effort to transfer experience, advice, practical know-how to new or newer business owners on a range of topics—everything from accounting, to marketing and sales, to networking, financing, and more. The M2M program can be designed in a myriad of ways, but it is expected that the first step would be to recruit established firms (within West Bank/Gaza as well as outside the region) who are interested as serving as mentors and to compile a database of potential mentors and clients. Incubator management can then find appropriate matches and nurture or supervise their relationship.

External Relationships and Partnerships

Community Partners

The incubator will serve as an anchor for the IT cluster and as such will need to partner with a wide range of community partners. These include:

- Birzeit University
- Arab-American University in Jenin
- Peres Center for Peace
- NIIT
- PITA
- PIPA
- PADCO
- Paltrade

In addition to the above, incubator should also seek affiliation with international partners.

As the universities will be essential and important partners on a number of levels, the following elaborates their role in the incubator and the proposed set of collaborative activities.

Birzeit and Arab American University Linkages

Many of the most successful incubators around the world are either based at a university or research institution or have strong linkages to such organizations, which can offer them valuable services and unique resources. In the case of PICTI the university can be a valuable partner in bridging the gap in expertise and resources available to the incubator and allowing it the flexibility to offer the full continuum of services to its clients.

Faculty Consulting

University faculty and their associates or affiliates can offer industry specific expertise, managerial experience and training, and technical skills, often on a pro-bono basis or at least a greatly reduced fee basis. Faculty can serve on the incubator board of directors or the board of advisors helping companies determine the value of their technology, the strategy for enhanced competitiveness, implementation of management best practices and the like. Given the focus of the incubator on IT-related businesses, the departments of the universities most likely to be involved are the Business School and the Engineering and Information Technology departments, although faculty from Law School or other schools can offer specialized services such as contract knowledge and patent knowledge. As Birzeit is an older, established university with

sizeable departments that produce both business and IT graduates, Birzeit will probably provide a significant portion of faculty advising and consulting. However, a partnership with Arab-American University in Jenin should be nurtured and can provide important off-site services to non-resident tenants. Also, with time, it is expected that AAJ IT department will grow commensurate with demand and thus is likely to play a growing role in supplying student interns, potential employees, and entrepreneurs.

IT Infrastructure and Facilities

Universities can offer a range of IT infrastructure, facilities and equipment to incubator clients. Also, universities often have access or subscribe to specialized databases (industry, business, technology) that may be useful to various incubator clients. Although both Birzeit and Arab-American University have limited access to research and development financing, the incubator may be able to access limited funding through strong partnerships or joint applications with these organizations.

Student Interns and Employees

The aforementioned universities can supply the incubator with undergraduate and graduate assistants in business, science, or engineering as well as law, multimedia design, or communications. Student interns can help with the administration (secretarial, marketing, desktop publishing, client outreach and support). They can also offer valuable research support, business planning, and web design services to incubator clients. These student interns can also help the university improve its responsiveness to industry demand by providing input for upgrading training curriculum. Some student interns also serve as a pipeline of future trained employees for IT firms while other students will gravitate towards entrepreneurship. In either case, the incubator, the individual clients, as well as the overall IT industry gain.

Technology Commercialization

It is difficult to assess the existence of any technology commercialization programs in the West Bank and Gaza. Given the dearth of R&D and the virtual nonexistence of substantial sources of funding, it is unlikely that technology commercialization will play a substantial role in the incubator's early years. However, as the West Bank and Gaza institutions build up their capacity, the universities can become important partners in technology commercialization.

Community Outreach

In the same manner, there needs to be an expanded, consistent effort to deal with the educational community (K-12, as well as colleges and universities) in forging a collaborative IT-Ed policy and strategy for addressing the digital divide, improving teledensity, procurement of local IT services and the improved integration of IT into school curriculum. Such initiatives would ultimately be win-win situations for both as the educational community can gain expertise and assistance in upgrading its IT infrastructure, in the advancement of students' IT skills and the forging of links to the potential job market; the IT community gains a valuable and lucrative market, a test-bed for development of more value-added software programs, and services.

As such efforts require seed money to fund the initial exploration and strategy process, it is recommended that PICTI set aside a separate fund for collaborative initiatives focused on the IT cluster. Such collaborative activities can be launched in the 2nd year as the incubator establishes

roots in the local environment and is starting to build strong relationships to industry and institutions.

Management will need to meet with each of its community partners and develop a mutually agreeable plan to coordinate and collaborate on various strategic activities.

Implementation Strategy and Costing: 0–5 years

The following presents the implementation strategy and costing of the PICTI incubator. Two long – term alternatives are presented: the first alternative assumes the leasing of space to house the incubator; the second puts forth a strategy based on acquiring or building a new facility that will house both the incubator as well as commercial office space for technology companies. In addition to these 2 long-term alternatives, a third alternative is being proposed as a short-term solution for launching an exclusively virtual incubator amidst the difficult security situation.

Before reviewing the financial merits of each alternative, it is important to note that the overwhelming majority of incubators around the world require on-going subsidies (both direct and indirect) to maintain operations. In Europe and in many developing countries, these subsidies are often in the form of government grants, land write-downs, donated space, and use of publicly provided or paid for services. In some cases, the government attempts to recoup some costs if and when the company “graduates” from the incubator. However, in many cases, these subsidies are considered an element of economic development services and the “return” on the investment is measured in jobs created, firms established and located in the local area, and growth of firms’ revenues (and thus contribution to local economy).

The North American model is typically heralded as standing apart from its European or Asian counterparts. In this market-based model, the perception is that incubators are more entrepreneurial, are able to recoup costs and eventually become self-sustaining enterprises. While many North American incubators are entrepreneurial, they too in fact require subsidies in order to survive and thrive. These subsidies take many forms but three are the most prevalent and most effective:

1. Provision of “free” space for the incubator (either by a municipality or government entity, a corporation) or the provision of a one-time grant to build a new facility (often by federal or state agencies), and/or;
2. Absorption of a portion of basic office operating expenses including utilities, and basic office services (copy machine, fax machine, and the like), and/or;
3. Access to professional service providers (accounting, legal affairs, financial services, marketing) at substantially reduced prices or on a pro bono basis.

Many local and state governments in the United States provide free or subsidized space to incubators as part of their overall economic strategy focused on “growing and nurturing” their local businesses and attracting entrepreneurs of the highest caliber. Universities have also played a very important role in large number of successful incubators. Universities not only provide ready access to ideas and talent that can fuel the incubator, but they provide space, office

services, utilities, and access to technical expertise which substantially reduce operating costs. Lastly, and most importantly, because this is often one of the largest operating expense items, American incubators are fortunate in their ability to rely on a vast network of diverse professionals who offer their services at reduced prices or even on a pro-bono basis. These professionals perceive consulting activities to incubator clients as a critical element of marketing to potential and long-term clients. Many professionals also derive indirect benefits (enhanced reputation, name recognition, goodwill in being a corporate citizen) in assisting incubators and their clients. Furthermore, venture capitalists also often donate services valuing incubators as an efficient source of prescreened entrepreneurs and deals with high potential. American incubators are thus able to provide affordable services for their clients without compromising the quality of these services.

In the West Bank, there is a limited pool of professionals that can offer the required services and given the market size, their resources for marketing, and the local business practices, it would be unrealistic to expect these professionals to offer their services for free or at greatly discounted prices. There is also a general lack of the large consulting firms, law firms or venture capital firms that are able to provide services on a pro bono basis as part of their general marketing strategy. Consequently, in the West Bank, creating a self-sustaining incubator will require alternative and creative approaches to generating revenue streams.

Alternative 1 presents a traditional approach to establishing an incubator. It involves the leasing of the required space and the provision of services through a network of local and expatriate professionals. This alternative requires less up-front capital costs, but it poses several long-term issues. First, and most importantly, this alternative does not provide a mechanism for the incubator to eventually become self-sustaining. Rather it will continue to require substantial subsidies whether in the form of land, space, or operating expenses. Second, Alternative 1 does not provide flexible space options to allow the incubator to expand in the same location in the future.

Alternative 2 incorporates the acquisition or construction of a dedicated facility for the incubator that will also incorporate commercial office space. This facility would be substantially larger than the incubator space provided under Alternative 1. Substantial up-front capital costs would be incurred within the first year. However, this option addresses some of the constraints in Alternative 1. First, a larger, facility owned by the incubator would free the incubator of yearly rental payments, reducing its operating costs by 10 to 20%. Second, it would also allow the incubator to rent out office space to non-clients thus creating a reliable revenue stream that can be used to subsidize the cost of services and space to its clients. It is also likely that upon graduation, some incubator clients will choose to rent commercial space in the facility. Third, it allows the incubator the flexibility to expand in the same location as the incubator matures and recruits more clients. Fourth, and most importantly, it provides a feasible opportunity for entrepreneurial management to create a self-sustaining incubator over the next 5 to 8 years.

Alternative 3 is a short- term solution to launching an incubator if the security situation in the West Bank and Gaza does not improve. This alternative calls for launching an exclusively virtual incubator. It would entail the leasing of minimum space required to oversee operations and house equipment such as servers and the like, but for all practical purposes it would have no “physical

presence.” All services would be offered virtually by telephone, e-mail, or the web. Staff would consist of a Managing Director, an IT manager, and a secretary. The Managing Director would be responsible for recruiting the members for the international and local knowledge networks as well as the clients. This alternative not only provides a suitable mechanism for launching the incubator, but also allows the Managing Director to focus efforts on building a first-rate knowledge network with the required value-added services to attract clients. If implemented this alternative will provide a solid base for the subsequent establishment of a physical incubator. However, as this is a short-term solution and as many of the sources of revenue associated with a physical incubator will be eliminated, this virtual incubator as presently proposed is not sustainable.

The following discussion details the three alternatives, assumptions, and the cost implications.

Alternative 1

Start-up Phase (0-1 year)

In the start-up phase, incubator managers must focus on establishing the incubator, ensuring the smooth operation of its basic services, attracting the first class of businesses, and developing the knowledge network. If possible, the office/facilities manager should be one of the first staff members hired in order to oversee the preparation of the incubator spaces, its furnishing, the installation of equipment, and its overall preparation for occupancy.

A critical activity during this early phase will be concerted marketing efforts to recruit on-site and off-site clients. While in general, the sample of IT firms consulted welcomed the idea of an incubator, there is still very little or rudimentary awareness and knowledge about incubators, and perhaps more importantly, little agreement on how to value or price these services.

Consequently, few firms, especially smaller IT firms, will be able to fully grasp the potential services an incubator can provide and the rationale for paying for those services. Consequently, while the incubator is still in its final planning stages and as the space is being prepared for move-in, the incubator manager needs to implement a multi-pronged media campaign that has as its objectives the following:

- Create an awareness and understanding of the concept of a business incubator;
- Deliver a customized message of the incubator’s value proposition;
- Educate industry leaders on need for incubator’s services; and
- Raise the visibility of the incubator.

Raising awareness of the incubator and raising its profile can be achieved through a media campaign covering print, radio, television, and the web. The educating of industry leaders and the delivery of messages focused on the value proposition will require a more focused and customized campaign. In addition, to one-on-one meetings with key firms, management can hold two or three workshops with industry stakeholders. These workshops can serve to educate stakeholders on incubators, the services they provide, and the potential value an incubator can add to their firms. It would be useful if one or two prominent and successful incubator graduates (from North America or elsewhere) were to be keynote speakers or participants at these workshops. If political and security conditions do not allow for their on-site presence, video-conferencing facilities should be utilized.

Consolidation Phase (2-3 years)

As the tenants move in and the incubator attains full occupancy, the managers need to turn their attention to creating and maintaining world-class services. The success of the incubator depends on providing marketing, management, financing, and technical services that are effective and affordable. This will require substantial networking and marketing efforts.

Self-Sustainability and Growth (4-5 years)

In year 4 and 5, the incubator will have built up a substantial network of alliances and partners, established credible network of experts and professionals, and will have hopefully graduated its first batch of clients. The graduation of the clients will provide the incubator with additional tangible results that can solidify its credibility and provide it with the leverage necessary to forge new alliances and relationships.

As such, during these years, the incubator can begin to trim some of its management and marketing costs. During the initial years, there was a need for both a Director and an Assistant Director for two primary reasons. The Director needed to be an expatriate with the experience, track record, and business networks to jumpstart the incubator. It was important at the same time to have another high-level local manager who could focus on forging strong local ties and relationships as well as being a Director –in –training to build up local capacity for establishing and managing incubators. By year 5, the expatriate director would have established the strong market position of the incubator and the local assistant directly would have built up the capacity to take over management of the incubator.

Also by year 5 and beyond, it is realistic to expect that the IT cluster in the West Bank is stronger and more diverse with a growing number of providers of financial, technical, marketing, and management services. Consequently, it is foreseeable that the need for expatriate consultants would be reduced.

Finally, by year 5, as incubator has gained credibility and can point to tangible benefits to its clients, it will have the opportunity to recoup a higher percentage of the cost of services.

Replication/Franchising (2-4 years)

As PICTI takes shape and establishes credibility in the West Bank, there is an opportunity to establish other incubators both in Gaza and the West Bank, and perhaps even in other regional countries including Jordan. PICTI will in the first three years work out solutions to the local challenges it will face; as such the incubation model will be substantially customized to the local circumstances and resources, consequently providing a successful prototype for replication or franchising. Further, the success of an incubator hinges on the key management talent and the knowledge and expert networks that are developed. These factors are easily transferable and/or shared. It is feasible for PICTI management to consider franchising the incubator by leasing the model out. Creating a network of incubators will in fact strengthen all the incubators, enhance the business environment, improve business support capacity, and allows each incubator to serve target clients more effectively.

Alternative 1

**TABLE V-1
PCTI START-UP COSTS**

| Start-Up Costs | |
|---------------------------|------------------|
| Government Permits | \$5,000 |
| Infrastructure | |
| Equipment | \$200,000 |
| Furniture | \$14,000 |
| Wiring | \$3,000 |
| Plumbing | \$1,500 |
| Carpets | \$24,000 |
| Final Office Prep | \$8,000 |
| Marketing Costs | \$35,000 |
| TOTAL | \$290,500 |

Note: Equipment includes computers, web servers, Video conferencing and other such equipment.

TABLE V-2
PICTI INCUBATOR
PROFORMA FOR PRELIMINARY PROSPECTUS

| Operating | Year | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---------------------------------|------------|------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| Lease | 1500 m2/yr | \$150,000 | \$150,000 | \$157,500 | \$157,500 | \$157,500 | \$165,375 | \$165,375 |
| Personnel | | | | | | | | |
| Staffing | | | | | | | | |
| General Manager | Salary | \$200,000 | \$210,000 | \$220,500 | \$231,525 | \$120,000 | \$126,000 | \$126,000 |
| | Positions | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | Cost | \$200,000 | \$210,000 | \$220,500 | \$231,525 | \$120,000 | \$126,000 | \$126,000 |
| Deputy General Manager | Salary | \$78,000 | \$81,900 | \$85,995 | \$90,295 | \$94,809 | \$99,550 | \$104,527 |
| | Positions | 1 | 1 | 1 | 1 | 0 | 0 | 0 |
| | Cost | \$78,000 | \$81,900 | \$85,995 | \$90,295 | \$0 | \$0 | \$0 |
| Office/Facilities Manager | Salary | \$51,000 | \$53,550 | \$56,228 | \$59,039 | \$61,991 | \$65,090 | \$68,345 |
| | Positions | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | Cost | \$51,000 | \$53,550 | \$56,228 | \$59,039 | \$61,991 | \$65,090 | \$68,345 |
| IT Manager | Salary | \$56,000 | \$58,800 | \$61,740 | \$64,827 | \$68,068 | \$71,472 | \$75,045 |
| | Positions | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | Cost | \$56,000 | \$58,800 | \$61,740 | \$64,827 | \$68,068 | \$71,472 | \$75,045 |
| Secretaries | Salary | \$20,000 | \$21,000 | \$22,050 | \$23,153 | \$24,310 | \$25,526 | \$26,802 |
| | Positions | 1 | 2 | 2 | 2 | 2 | 2 | 2 |
| | Cost | \$20,000 | \$42,000 | \$44,100 | \$46,305 | \$48,620 | \$51,051 | \$53,604 |
| Accountant | Salary | \$28,860 | \$30,303 | \$31,818 | \$33,409 | \$35,080 | \$36,833 | \$38,675 |
| | Positions | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | Cost | \$28,860 | \$30,303 | \$31,818 | \$33,409 | \$35,080 | \$36,833 | \$38,675 |
| Office Boy | Salary | \$11,500 | \$12,075 | \$12,679 | \$13,313 | \$13,978 | \$14,677 | \$15,411 |
| | Positions | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | Cost | \$11,500 | \$12,075 | \$12,679 | \$13,313 | \$13,978 | \$14,677 | \$15,411 |
| Local Professional Network | Rate/Hr | \$100 | \$100 | \$105 | \$110 | \$116 | \$122 | \$128 |
| | Hours | 700 | 805 | 1,000 | 1,250 | 1,500 | 1,500 | 1,500 |
| | Cost | \$70,000 | \$80,500 | \$105,000 | \$137,813 | \$173,644 | \$182,326 | \$191,442 |
| Expatriate Professional Network | Rate/Hr | \$200 | \$200 | \$210 | \$221 | \$232 | \$243 | \$255 |
| | Hours | 500 | 800 | 1,000 | 1,000 | 750 | 700 | 600 |
| | Cost | \$100,000 | \$160,000 | \$210,000 | \$220,500 | \$173,644 | \$170,171 | \$153,154 |
| Total of Salaries | | \$615,360 | \$729,128 | \$828,059 | \$897,025 | \$695,025 | \$717,621 | \$721,676 |
| Travel | Cost/Trip | \$4,000 | \$4,000 | \$4,500 | \$4,500 | \$4,500 | \$4,500 | \$4,500 |
| | Trips | 8 | 10 | 12 | 15 | 15 | 12 | 10 |
| | Cost | \$32,000 | \$40,000 | \$54,000 | \$67,500 | \$67,500 | \$54,000 | \$45,000 |
| Entertainment | | \$2,500 | \$2,500 | \$2,625 | \$2,756 | \$2,894 | \$3,039 | \$3,191 |
| Subscription to Organizations | | \$2,000 | \$2,000 | \$2,500 | \$2,500 | \$3,000 | \$3,000 | \$3,000 |
| Subscription to Magazines | | \$1,500 | \$1,500 | \$1,800 | \$1,800 | \$2,000 | \$2,000 | \$2,000 |
| Utilities | | | | | | | | |
| Water, Electricity, Fuel | | \$4,000 | \$4,000 | \$4,120 | \$4,244 | \$4,371 | \$4,502 | \$4,637 |
| Telephone | | \$18,000 | \$18,900 | \$19,845 | \$20,837 | \$21,879 | \$22,973 | \$24,122 |
| Taxes/Sewage | | \$1,000 | \$1,000 | \$1,000 | \$1,000 | \$1,000 | \$1,000 | \$1,000 |
| Maintenance | | \$5,000 | \$5,250 | \$5,408 | \$5,678 | \$5,962 | \$6,260 | \$6,573 |
| Cleaning | | \$12,000 | \$12,000 | \$12,600 | \$13,230 | \$13,892 | \$14,586 | \$15,315 |
| Insurance | | \$5,000 | \$5,000 | \$5,000 | \$5,000 | \$5,000 | \$5,000 | \$5,000 |
| Auditing | | \$3,500 | \$3,500 | \$3,500 | \$3,675 | \$3,859 | \$4,052 | \$4,254 |
| SubTotal | | \$851,860 | \$974,778 | \$1,097,957 | \$1,182,745 | \$983,881 | \$1,003,407 | \$1,001,143 |
| Contingency (10%) | | \$85,186 | \$97,478 | \$109,796 | \$118,274 | \$98,388 | \$100,341 | \$100,114 |
| Total Operating Costs | | \$937,046 | \$1,072,256 | \$1,207,753 | \$1,301,019 | \$1,082,269 | \$1,103,748 | \$1,101,258 |

Assumptions:

- Lease of space will cost \$100/m2 for unfurnished space in downtown Ramallah.
- General Manager will be an expatriate and will require a total compensation package of \$200,000.
- The Deputy General Manager will be hired locally with the aim of building up capacity to take on General Managerial duties. In Yr 5, it is assumed that the Deputy General Manager or someone of similar qualifications and experience will be phased in as a local General Manager, and thus command lower total compensation package.

- *Salaries for staff are based on mid-range market figures and assume an annual raise of 5%.*
- *Rates for local professional network members are \$100/hour and for expatriate professionals \$200 an hour with an annual increase of 5% in rates starting in Yr 3. It is assumed that as the incubator and ICT cluster matures, the local professional network will grow and will include more members with improved qualifications and experience who can provide more of the services previously provided by an expatriate network. Thus in Yr 4, the utilization of local professional network will increase while the assistance provided by the expatriate network will decrease.*
- *Travel assumes an average cost of \$4000 per trip and covers local, regional, and international travel. As the General Manager and Deputy General Manager will need to be aggressive in their recruitment of first-rate professional networks and in forging strong alliances and relationships with service providers as well as industry partners, venture capitalists, and other related institutions abroad, there will be significant travel involved. In Yr 1, 8 trips are assumed growing to 15 trips a year in Yr 4. As incubator matures, the professional network is well established, and as the local Deputy General Manager takes on more responsibilities, travel trips will decrease.*
- *Entertainment covers entertainment activities for clients, partners, and other networking activities critical to the success of the incubator.*
- *Subscription to organizations includes both local and international organizations.*
- *Subscription to magazines includes both print and on-line media. These magazines will serve both management and clients and will include diverse topics include magazines focused on management, market trends, industry trade journals, and the like.*

TABLE V-3
PICTI INCUBATOR
CASH FLOW ANALYSIS

| Cash Flow | Year | 1 | 2 | 3 | 4 | 5 | | |
|-------------------------|------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Operating Costs | | \$937,046 | \$1,072,256 | \$1,207,753 | \$1,301,019 | \$1,082,269 | \$1,103,748 | \$1,101,258 |
| Income | | | | | | | | |
| Rental Income | | \$54,000 | \$108,000 | \$135,000 | \$135,050 | \$135,050 | \$149,100 | \$149,100 |
| Client Fees | | \$51,000 | \$72,150 | \$126,000 | \$179,156 | \$208,373 | \$211,498 | \$241,217 |
| Royalties | | \$12,000 | \$13,800 | \$16,560 | \$19,872 | \$23,846 | \$28,616 | \$34,339 |
| Training/Seminar Fees | | \$8,000 | \$9,600 | \$11,520 | \$14,400 | \$18,000 | \$22,500 | \$28,125 |
| Advertising Fees | | \$20,000 | \$24,000 | \$28,800 | \$34,560 | \$41,472 | \$49,766 | \$59,720 |
| Net Operating Income | | \$145,000 | \$227,550 | \$317,880 | \$383,038 | \$426,741 | \$461,480 | \$512,501 |
| Cash Flow | | -\$792,046 | -\$844,706 | -\$889,873 | -\$917,981 | -\$655,528 | -\$642,268 | -\$588,757 |
| Capitalization Required | | \$5,331,158 | | | | | | |

Assumptions:

- Rent rises by 5% every third year.
- Client fees scaled from 30% of actual cost to 70% of actual costs in year 7.
- Rent = \$135/square meter per year. Rent rises by 5% every third year.
- On-site tenants (approximately 4 tenants) will rent out 400 m² in Yr 1, doubling to 800 m² in Yr 2, to 1000 m² in year 3. 1000 m² represents the maximum space available for on-site clients.
- Client fees for professional services are scaled from 30% of actual cost in the first year increasing to 70% of actual costs in year 7.
- Royalties refer to “earnings” derived as percentage of contracts signed by on-site incubator clients. It is difficult to project this revenue stream as it may take some time before clients are able to close sizeable contracts. Further, there may be reluctance on the part of client firms to opt into such an agreement. Consequently, the above projected royalties are very conservative estimates. The assumption is that in the first year, a minimum of \$12,000 will be gained; in year 2, there will be a 15% increase, with subsequent annual growth rate of 20%.
- Incubator will host 4 training workshops per year, with an average of 20 participants paying average of \$100 per workshop. An annual growth rate of 20% is assumed, fueled by a combination of additional workshops, more participants per workshops, and/or higher fees.

Cost Implications of Alternative 1

Alternative 1 assumes a traditional approach to establishing an incubator. Space will be rented in downtown Ramallah providing access to facilities with the required technology infrastructure and urban amenities. The take-up rate of the incubator is conservative, assuming that in the first year, the incubator houses only 4 on-site tenants: 2 to 3 clients, and 1 to 2 other permanent tenants. The largest operating expense is the salaries of the professionals in the incubator. It is assumed that to attract the necessary international talent to oversee this effort, salary for the Director must be in the range of \$200,000 representing a total compensation package. In year 5, the local assistant director or another qualified local individual with similar experience and track record would assume responsibility for the incubator and would be hired at a locally competitive salary. On-site clients would rent space at market prices but would pay only a fraction of the cost of professional services provided by expatriate or local consultants. In the first year, clients would pay only 30% of actual cost, building to 70% of actual costs by year 5. It is important to

maintain access to affordable services otherwise the premise underlying the demand for incubator space and services is undermined.

The cost of running the incubator would range from approximately \$940,000 to \$1.1 million over the first five years. Revenue streams for the incubator would come from five sources: rental income, client fees for services, royalties on client firm contracts, fees from training and technical seminars, and advertising fees. While these revenue streams would increase over time they never cover more than half the operating costs. The revenue streams from rental of office space to clients, fees for services, training, and advertising are relatively easier to project and will not vary significantly once the market conditions are assessed. However, the potential revenues from royalties represent essentially an “unknown” item. Royalties refers to the potential for the incubator to extract a percentage of contract value from business contracts that client firms procure with the assistance of the incubator’s management or advisors. In North America, a common practice among incubators and venture capitalists is take equity in client firms. This strategy is not feasible in current market conditions; royalties thus represent a reasonable alternative. Both Alternatives 1 and 2 put forth low estimates of potential royalties due to the lack of adequate market data on market acceptance of this practice, and on the expectation that it will take time to build up the capacity of the incubator to generate significant contracts procurement for its clients.

Under Alternative 1, although net operating income continues to grow, for the projected 7 years, it is never commensurate with the operating costs. Thus, the capitalization required to cover the deficit and keep the incubator running is \$5.3 million over 7 years. It is difficult to envision a break-even point under Alternative 1 as the operating costs are not offset by significant revenue. To become self-sustaining, one or more of the revenue streams need to grow considerably. Rental income is unlikely to grow commensurate with the need due to both the limited space as well as the requirement to maintain affordable rental office space for young technology companies as one of the key incentives for joining an incubator. Client fees could be increased so that clients pay a higher portion of actual costs. However, again, one of the key incentives and success factors of incubators is the access to experts at affordable rates. At least in the initial years until sufficient capacity is built locally, international consultants will be providing a substantial proportion of the technical guidance and assistance and it is unlikely that young technology firms can absorb these costs. It may be possible to convince consultants, both international and local, to discount their fees by 20 to 30% by year 5 once they have worked with many clients and can appreciate their consulting activities to the incubator as a viable, marketing strategy to grow their client base. However, even with the discounted consulting fees and with clients paying full cost of these consulting services by year 6, the incubator would still not cover operating costs, and would still require just under half a million to continue operations.

The issue of royalties was discussed above. It is unlikely to be a substantial source of income in the initial years for a number of reasons. First, as the incubator will be assisting smaller, emerging IT companies, it is unlikely that they will close large, substantial contracts. There will be a few but not on a scale to signify a reliable and growing source of revenue. Second, the concept of royalties, or equity and other similar forms of receiving a return on investment, is still a relatively uncommon practice in the West Bank and Gaza. Consequently, there may be a reluctance to “give up” some returns for assistance clients feel they deserve, are paying for, or

should be provided by “others” (i.e. government, nonprofits, international donors, and the like). Training and seminars fees as well as advertising revenues can be increased but will not make a significant dent in off-setting the operating costs.

Alternative 2

TABLE V-4
PCTI START-UP COSTS

| Start-Up Costs | |
|-----------------------------------|---------------------|
| Building Acquisition/Construction | \$1,000,000 |
| Government Permits | \$7,000 |
| Infrastructure | |
| Equipment | \$200,000 |
| Furniture | \$25,000 |
| Carpets | \$30,000 |
| Final Office Prep | \$8,000 |
| Marketing Costs | \$35,000 |
| TOTAL | \$1,305,0000 |

Note: Equipment includes computers, web servers, Video conferencing and other such equipment. Building Acquisition/Construction costs are based on appropriate office space in downtown Ramallah or nearby that provides approximately 4000 m2.

TABLE V-5
PICTI INCUBATOR
PROFORMA FOR PRELIMINARY PROSPECTUS

| Operating | Year | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|-------------------------------------------|-----------|------------------|------------------|--------------------|--------------------|------------------|------------------|------------------|
| Personnel | | | | | | | | |
| Staffing | | | | | | | | |
| General Manager | Salary | \$200,000 | \$210,000 | \$220,500 | \$231,525 | \$120,000 | \$126,000 | \$126,000 |
| | Positions | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | Cost | \$200,000 | \$210,000 | \$220,500 | \$231,525 | \$120,000 | \$126,000 | \$126,000 |
| Deputy General Manager | Salary | \$78,000 | \$81,900 | \$85,995 | \$90,295 | \$94,809 | \$99,550 | \$104,527 |
| | Positions | 1 | 1 | 1 | 1 | 0 | 0 | 0 |
| | Cost | \$78,000 | \$81,900 | \$85,995 | \$90,295 | \$0 | \$0 | \$0 |
| Office/Facilities Manager | Salary | \$51,000 | \$53,550 | \$56,228 | \$59,039 | \$61,991 | \$65,090 | \$68,345 |
| | Positions | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | Cost | \$51,000 | \$53,550 | \$56,228 | \$59,039 | \$61,991 | \$65,090 | \$68,345 |
| IT Manager | Salary | \$56,000 | \$58,800 | \$61,740 | \$64,827 | \$68,068 | \$71,472 | \$75,045 |
| | Positions | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | Cost | \$56,000 | \$58,800 | \$61,740 | \$64,827 | \$68,068 | \$71,472 | \$75,045 |
| Secretaries | Salary | \$20,000 | \$21,000 | \$22,050 | \$23,153 | \$24,310 | \$25,526 | \$26,802 |
| | Positions | 1 | 2 | 2 | 2 | 2 | 2 | 2 |
| | Cost | \$20,000 | \$42,000 | \$44,100 | \$46,305 | \$48,620 | \$51,051 | \$53,604 |
| Accountant | Salary | \$28,860 | \$30,303 | \$31,818 | \$33,409 | \$35,080 | \$36,833 | \$38,675 |
| | Positions | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | Cost | \$28,860 | \$30,303 | \$31,818 | \$33,409 | \$35,080 | \$36,833 | \$38,675 |
| Office Boy | Salary | \$11,500 | \$12,075 | \$12,679 | \$13,313 | \$13,978 | \$14,677 | \$15,411 |
| | Positions | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | Cost | \$11,500 | \$12,075 | \$12,679 | \$13,313 | \$13,978 | \$14,677 | \$15,411 |
| Local Professional Network | Rate/Hr | \$100 | \$100 | \$105 | \$110 | \$116 | \$122 | \$128 |
| | Hours | 700 | 805 | 1,006 | 1,258 | 1,509 | 1,509 | 1,509 |
| | Cost | \$70,000 | \$80,500 | \$105,656 | \$138,674 | \$174,729 | \$183,465 | \$192,639 |
| Expatriate Professional Network | Rate/Hr | \$200 | \$200 | \$210 | \$221 | \$232 | \$243 | \$255 |
| | Hours | 500 | 700 | 980 | 980 | 833 | 750 | 675 |
| | Cost | \$100,000 | \$140,000 | \$205,800 | \$216,090 | \$192,860 | \$182,253 | \$172,229 |
| Total of Salaries | | \$615,360 | \$709,128 | \$824,516 | \$893,476 | \$715,327 | \$730,843 | \$741,948 |
| Travel | Cost/Trip | \$4,000 | \$4,000 | \$4,500 | \$4,500 | \$4,500 | \$4,500 | \$4,500 |
| | Trips | 8 | 10 | 12 | 15 | 15 | 12 | 10 |
| | Cost | \$32,000 | \$40,000 | \$54,000 | \$67,500 | \$67,500 | \$54,000 | \$45,000 |
| Entertainment | | \$2,500 | \$2,500 | \$2,625 | \$2,756 | \$2,894 | \$3,039 | \$3,191 |
| Subscription to Organizations | | \$2,000 | \$2,000 | \$2,500 | \$2,500 | \$3,000 | \$3,000 | \$3,000 |
| Subscription to Magazines (incl. on-line) | | \$1,500 | \$1,500 | \$1,800 | \$1,800 | \$2,000 | \$2,000 | \$2,000 |
| Utilities | | | | | | | | |
| Water, Electricity, Fuel | | \$4,000 | \$4,000 | \$4,120 | \$4,244 | \$4,371 | \$4,502 | \$4,637 |
| Telephone | | \$18,000 | \$18,900 | \$19,845 | \$20,837 | \$21,879 | \$22,973 | \$24,122 |
| Taxes/Sewage | | \$1,000 | \$1,000 | \$1,000 | \$1,000 | \$1,000 | \$1,000 | \$1,000 |
| Maintenance | | \$5,000 | \$5,250 | \$5,408 | \$5,678 | \$5,962 | \$6,260 | \$6,573 |
| Cleaning | | \$12,000 | \$12,000 | \$12,600 | \$13,230 | \$13,892 | \$14,586 | \$15,315 |
| Insurance | | \$5,000 | \$5,000 | \$5,000 | \$5,000 | \$5,000 | \$5,000 | \$5,000 |
| Auditing | | \$3,500 | \$3,500 | \$3,500 | \$3,675 | \$3,859 | \$4,052 | \$4,254 |
| SubTotal | | \$701,860 | \$804,778 | \$936,913 | \$1,021,696 | \$846,683 | \$851,254 | \$856,040 |
| Contingency (10%) | | \$70,186 | \$80,478 | \$93,691 | \$102,170 | \$84,668 | \$85,125 | \$85,604 |
| Total Operating Costs | | \$772,046 | \$885,256 | \$1,030,604 | \$1,123,866 | \$931,351 | \$936,379 | \$941,644 |

Assumptions:

- As building or adequate space will be purchased or built, there are no leasing costs.
- General Manager will be an expatriate and will require a total compensation package of \$200,000.
- The Deputy General Manager will be hired locally with the aim of building up capacity to take on General Managerial duties. In Yr 5, it is assumed that the Deputy General Manager or someone of similar qualifications and experience will be phased in as a local General Manager, and thus command lower total compensation package.

- *Salaries for staff are based on mid-range market figures and assume an annual raise of 5%.*
- *Rates for local professional network members are \$100/hour and for expatriate professionals \$200 an hour with an annual increase of 5% in rates starting in Yr 3. It is assumed that as the incubator and ICT cluster matures, the local professional network will grow and will include more members with improved qualifications and experience who can provide more of the services previously provided by an expatriate network. Thus in Yr 4, the utilization of local professional network will increase while the assistance provided by the expatriate network will decrease.*
- *Travel assumes an average cost of \$4000 per trip and covers local, regional, and international travel. As the General Manager and Deputy General Manager will need to be aggressive in their recruitment of first-rate professional networks and in forging strong alliances and relationships with service providers as well as industry partners, venture capitalists, and other related institutions abroad, there will be significant travel involved. In Yr 1, 8 trips are assumed growing to 15 trips a year in Yr 4. As the incubator matures, the professional network becomes well established, and the local Deputy General Manager takes on more responsibilities, travel trips will decrease.*
- *Entertainment covers entertainment activities for clients, partners, and other networking activities critical to the success of the incubator.*
- *Subscription to organizations includes both local and international organizations.*
- *Subscription to magazines includes both print and on-line media. These magazines will serve both management and clients and will include diverse topics include magazines focused on management, market trends, industry trade journals, and the like.*

TABLE V-6
PICTI INCUBATOR
CASH FLOW ANALYSIS

| Cash Flow | Year | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|-------------------------|------|------------|------------|-------------|-------------|-----------|-----------|-----------|
| Operating Costs | | \$772,046 | \$885,256 | \$1,030,604 | \$1,123,866 | \$931,351 | \$936,379 | \$941,644 |
| Income | | | | | | | | |
| Rental Income | | \$204,000 | \$320,500 | \$404,250 | \$404,250 | \$416,850 | \$416,850 | \$416,850 |
| Client Fees | | \$51,000 | \$66,150 | \$124,583 | \$177,382 | \$220,554 | \$219,431 | \$255,407 |
| Royalties | | \$12,000 | \$14,400 | \$17,280 | \$20,736 | \$24,883 | \$29,860 | \$35,832 |
| Training/Seminar Fees | | \$15,000 | \$18,000 | \$21,600 | \$27,000 | \$33,750 | \$42,188 | \$54,844 |
| Advertising Fees | | \$40,000 | \$48,000 | \$57,600 | \$69,120 | \$82,944 | \$99,533 | \$119,439 |
| Naming Rights | | | | | | \$60,000 | \$60,000 | \$60,000 |
| Net Operating Income | | \$322,000 | \$467,050 | \$625,313 | \$698,488 | \$838,981 | \$867,861 | \$942,372 |
| Cash Flow | | -\$450,046 | -\$418,206 | -\$405,292 | -\$425,378 | -\$92,370 | -\$68,518 | \$728 |
| Capitalization Required | | \$1,859,08 | | | | | | |

Assumptions:

- Occupancy level will build up from 4 incubator clients and 12 commercial clients in year 1 to 10 incubator clients and 20 commercial clients in year 5.
- The average office is 100 square meters for both incubator and commercial clients
- Rent is \$135 a square foot for incubator clients and includes furnished space and shared incubator services.
- Rent is \$125 a square foot for commercial clients and includes unfurnished office space and no incubator services.

Cost Implications of Alternative 2

Alternative 2 involves the construction or acquisition of a facility or building that will include both an incubator as well as general office space. As outlined previously, this alternative provides the incubator with several long-term advantages:

1. Ability to customize space
2. Flexibility to expand incubator facility in the future in the same location.
3. Opportunity to achieve self-sustainability.

Consequently, Alternative 2 is the recommended alternative for implementation.

Due to the ability to eliminate rental or lease payments and through the rental of office space to non-incubator clients (see Table V-6), it is reasonable to expect that the incubator would attain sustainability in the 7th year. Sustainability could be achieved earlier if one or more of the revenue streams grew. As discussed under Alternative 1, the likely candidates for larger revenue streams lie are rental income and client fees. Depending on the location, quality of office space, and added value services that are provided, it is conceivable that rents can be increased. It is also conceivable that by year 6 and 7 as the incubator has established a substantial client base (both on-site and virtual clients), that professional service providers would be willing to discount their

consulting fees for incubator clients. With a 20% to 30% discount, it is likely that clients could absorb the full cost of these services in year 6 and 7 and thus, cash flow from this revenue stream would be larger- projected at \$120,000 in year 7.

Other than the purchase of a facility and the elimination of lease payments, this alternative includes one other variation from Alternative 1 – revenue generated from naming rights. While the figure is not substantial, \$60,000 annually, it nevertheless represents a potential financing mechanism that should be considered seriously. The incubator will own the facility and thus management will have the flexibility to sell or lease out the naming rights to the facility- thus generating either a one- time substantial lump sum fee or a revenue stream. Currently, many incubators like other institutions derive their names from generous donors whether they be private or public. Corporations for example do spin-off or sponsor some incubators and lend them their name thus creating a stake in the successful operation and maintenance of these incubators. A successful example is the Panasonic Digital Concept Center, which is sponsored by parent company Matsushita Electric. The Panasonic incubator focuses on attracting firms that can be potential partners with parent company. As the security situation improves, and the ICT market picks up in the West Bank and Gaza, it is quite reasonable to expect that several international technology firms would be interested in buying or leasing the naming rights to the incubator in order to enhance their market position as well as have priority access to potential innovative or required products and services.

There is another variation to this option but one that requires more time to develop and implement effectively. Recently, there have been new forms of incubators, the so-called next generation incubators, emerging. These incubators are attempting to go beyond traditional corporate incubators to create alliances between successful incubators, whether they are profit or nonprofit and global corporations. A recent example is Fizzion, a business incubator launched by the Advanced Technology Development Center (ATDC) at Georgia Tech and the Coca-Cola Company. This alliance between ATDC and a global company aims to leverage ATDC experience in incubating start-ups with the marketing, management and financial expertise of the Coca-Cola Company. This incubator targets companies with applications that have potential for the beverage industry but companies will not be captive to the company. Such alliances might be further explored to assess their potential in West Bank and Gaza.

Whether these or other mechanisms are used to increase resources available to the incubator, as the discussion of Alternative 1 and 2 demonstrates, Alternative 2 is the recommended alternative for creating a long-term, viable, sustainable, and successful incubator. In the event that security situation prevents the immediate implementation of this alternative, the following alternative 3, serves as a viable short-term solution to establishing incubation services and laying the foundation for implementing Alternative 2.

Alternative 3

**TABLE V-7
PICKI START-UP COSTS**

| Start-Up Costs | |
|---------------------------|------------------|
| Government Permits | \$3,000 |
| Infrastructure | |
| Equipment | \$100,000 |
| Furniture | \$5,000 |
| Carpets | \$0 |
| Final Office Prep | \$0 |
| Marketing Costs | \$35,000 |
| TOTAL | \$143,000 |

TABLE V-8
PICTI INCUBATOR
PROFORMA FOR PRELIMINARY PROSPECTUS

| Operating | Year | 1 | 2 |
|-------------------------------------------|-----------|------------------|------------------|
| Lease | 100m2 | \$10,000 | \$10,000 |
| Personnel | | | |
| Staffing | | | |
| General Manager | Salary | \$200,000 | \$210,000 |
| | Positions | 1 | 1 |
| | Cost | \$200,000 | \$210,000 |
| IT Manager | Salary | \$56,000 | \$58,800 |
| | Positions | 1 | 1 |
| | Cost | \$56,000 | \$58,800 |
| Secretaries | Salary | \$20,000 | \$21,000 |
| | Positions | 1 | 1 |
| | Cost | \$20,000 | \$21,000 |
| Accountant | Salary | \$28,860 | \$30,303 |
| | Positions | 1 | 1 |
| | Cost | \$28,860 | \$30,303 |
| Local Professional Network | Rate/Hr | \$100 | \$100 |
| | Hours | 700 | 805 |
| | Cost | \$70,000 | \$80,500 |
| Expatriate Professional Network | Rate/Hr | \$200 | \$200 |
| | Hours | 500 | 700 |
| | Cost | \$100,000 | \$140,000 |
| Total of Salaries | | \$474,860 | \$540,603 |
| Travel | Cost/Trip | \$4,000 | \$4,000 |
| | Trips | 8 | 10 |
| | Cost | \$32,000 | \$40,000 |
| Entertainment | | \$500 | \$500 |
| Subscription to Organizations | | \$2,000 | \$2,000 |
| Subscription to Magazines (incl. on-line) | | \$1,500 | \$1,500 |
| Utilities, Taxes, Maintenance | | \$5,000 | \$5,000 |
| Auditing | | \$3,500 | \$3,500 |
| SubTotal | | \$529,360 | \$603,103 |
| Contingency (10%) | | \$52,936 | \$60,310 |
| Total Operating Costs | | \$582,296 | \$663,413 |

Assumptions:

- All services provided to clients will be “virtual”
- Leasing costs are for a 100 m2 office for staff and required equipment
- General Manager is likely to be an expatriate.

TABLE V-9
PCTI INCUBATOR
CASH FLOW ANALYSIS

| Cash Flow | Year | 1 | 2 |
|--------------------------------|------|--------------------|------------|
| Operating Costs | | \$582,296 | \$663,413 |
| Income | | | |
| Rental Income | | \$0 | \$0 |
| Client Fees | | \$51,000 | \$66,150 |
| Advertising/Sponsorship Fees | | \$20,000 | \$24,000 |
| Net Operating Income | | \$71,000 | \$90,150 |
| Cash Flow | | -\$511,296 | -\$573,263 |
| Capitalization Required | | \$1,084,559 | |

Assumptions:

- Assumes 40 clients in year 1 and 60 in year 2.
- Clients fees assume clients will be charged 30% of actual costs of consultants.

Cost Implications of Alternative 3

Alternative 3 is a short-term solution that allows the establishment of an incubator despite on-going security challenges. Alternative 3 is an appropriate alternative if the current situation does not improve. However, over the long run, and for the reasons outlined in the discussion of an incubator's success factors, a physical incubator that allows for on-going interaction between management and clients, and among clients is crucial to the long term success of incubation of technology companies in the West Bank and Gaza.

Alternative 3 provides an immediate mechanism to provide incubation services and to facilitate the subsequent implementation of Alternative 1 or 2. This alternative calls for a virtual incubator that provides services to clients "virtually"- i.e. through the telephone, e-mail, electronic exchanges including chat rooms, web conferencing, and the like. Essentially, Alternative 3 is Alternative 1 stripped of all on-site services, including office space, shared administrative, clerical, services, on-site technical expertise, and the like. The services provided by the virtual incubator will include the expertise of knowledge professionals as well research and competitive intelligence resources (available through incubator's web site).

Start-up costs will be low as there will be minimal space required. Since the virtual incubator will not have on-site tenants nor host significant physical activities, only a small, 100 m2 office will be required for the limited staff and for housing the necessary equipment to maintain virtual services. Staff will include a General Manager, an IT Manager, a secretary and an accountant. General manager will be responsible for building up a network of professionals that can provide the necessary technical assistance and for recruiting clients.

Due to reduced staff and limited activities, the operating costs are lower, approximately half a million a year. However, as potential revenue streams are limited, the virtual incubator will require almost complete subsidy for its 2 years of operation. The deficit stems mainly from overhead costs of staff and the consultants costs. It is unlikely that clients can be charged full cost of consulting services as well as a share of overhead costs. Since this is a short-term solution, it is unlikely that the incubator will establish the market presence and credibility to warrant full cost recovery of consulting fees. However, as the above tables assume a low 30% cost recovery basis, it is likely that an experienced general manager will be able to work closely with clients to determine a more appropriate (higher) fee structure that can be borne by the market.

This alternative however provides a good opportunity for General Manager to begin to build a solid foundation for a subsequent, physical incubator with expanded resources. The manager can focus on building a network of professionals and on working closely with clients to assess their needs and customize services. If deemed necessary, this short-term solution will in several ways establish a strong foundation for the implementation of Alternative 1 or 2, and for the potential success of a hybrid incubator.

Risk Analysis and Mitigation

Table V-7 below summarizes the different types of risks involved establishing and operating PICTI, their probability, and potential mitigation measures. Prior to the recent events, the overall risk level was low. However, the recent events and the current political uncertainty have elevated all the forms of risk, including market, capitalization, execution, and political risk. While there may be a reluctance to establish the incubator amidst these conditions, if the necessary mitigation measures are taken as outlined in the table, establishing PICTI will have significant positive impacts on the business climate, entrepreneurial environment, on the market psychology, and on the reconstruction efforts. If PICTI is early to market and establishes a credible leadership, it can also help influence reconstruction policies and implementation in support of the ICT cluster and entrepreneurialism in general. If the political situation improves to the point where the Israeli military has completely withdrawn from Ramallah and its environs and the Palestinians are able to resume work and relatively normal daily routines, PRIZM managers should move ahead with the execution of the PICTI business plan.

Given the level of risks involved and the overall political and economic context of the West Bank and Gaza, it would be unreasonable to expect that the private sector, local government, or other nonprofit institutions or organizations to invest significantly in establishing PICTI. USAID will have to execute the business plan. Over the next three to five years, PICTI managers will seek local and international partners and investors and work to create a sustainable business model, thus creating an exit opportunity for USAID.

TABLE V-7
RISK ANALYSIS AND MITIGATION

| Type of Risk | Risk Probability | Steps to Reduce Risk |
|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Market Risk | Market risk refers to the risk that the market will not respond to the incubator and the services it provides either because there is no real market need or the market is not yet ready for it. The probability of the risk of there being no real market for incubation services is <i>low</i> as the market demand has already been gauged. The risk of the market not being ready is <i>medium</i> as the concept of incubation services is new to the local market and potential clients may not be able to fully assess the value proposition of such services and may undervalue them. | <p>There has been considerable effort to introduce and explain the concept of incubation to local firms but much more needs to be done. The meetings with stakeholders have been limited to an extent. If this project received approval, then considerable effort needs to be placed on raising awareness in the marketplace. The Business Plan outlines different strategies to raise awareness including the media and the conduct of workshops. These activities must be done at the earliest stages of the preparation for the incubator start-up.</p> <p>In addition to raising market awareness and visibility, there should be an additional market demand assessment (through a simple e-mail or similar survey of PITA members and independent contractors) to gauge level of demand, willingness to pay, and price sensitivity especially given the recent events.</p> |
| Competitive Risk | Competitive risk refers to the risk that the competitive situation will change significantly, with either other incubators entering the market or existing institutions modifying or adding services that are similar in nature to incubation services. This risk exists both before and after the start-up of the incubator. The risk of other incubators being established prior to PCTI's establishment is <i>low to medium</i> . After its establishment, there is a higher probability that other incubators will be established. | <p>To reduce this risk, PCTI should be first to market. Being first in the market has advantages in terms of branding, positioning, market share capture. Market intelligence on the incubators in the offing should be maintained in order to identify any potential entrants early, but the real protection against this risk is to implement quickly and efficiently.</p> <p>The risk of competition from other incubators in the future can be mitigated by ensuring a strong set of relationships with the right local and international partners. As such the hiring of capable managers who are able to bring these partners on board is key.</p> |
| Product/Execution Risk | Product risk refers to the risk that the incubator won't materialize, won't be finished on time, or won't work as promised. Execution risk is related and refers to the issues in executing the expansion plan for the incubator. The risk of product and/or execution risk is <i>low to medium</i> . | The key to mitigating the product/execution risk is the hiring of capable management team- most notably the director and the assistant director. These two people, in addition to the consultants, will be responsible for ensuring the establishment of a high caliber incubator. |

| Type of Risk | Risk Probability | Steps to Reduce Risk |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Capitalization Risk | Capitalization risk refers to the risk of underestimating costs, miscalculation or inaccurate estimation of revenue streams or income, and cash flow analysis. This risk is <i>medium</i> . Cost estimates were gathered by local consultants and appear to be commensurate with the market. Revenue stream projections had to rely on less established data as there are no market comparables to utilize. Further, since the recent events, the costs of real estate, costs of services and the like may have shifted significantly and will be further impacted by reconstruction efforts. | As recent events have called into question some of the costing data and revenue estimations culled from previous market conditions, it would be prudent for our local consultant to reevaluate these assumptions prior to the execution of business plan. With the recent events, the unstable political climate and the as yet undetermined reconstruction efforts, it will be important to monitor the market and costing of real estate, services, and the like very closely. |
| Political Risk | Political risk refers to a wide range of possibilities that may transform the political and security climate in the West Bank. These include the continued military operations, the eradication of the Palestinian Authority, the reoccupation of the West Bank, the escalation of confrontation, and the like. This risk is <i>high</i> . | There is little that can be done to mitigate political risk. There are some band-aid measures in the selection of site for the location of incubator, in its organizational structure, and its activities that may serve to "protect" the incubator and reduce some of the risk of potential damage or destruction as a result of renewed military operations. However, political instability will undermine significantly any efforts to ramp up incubator activities, to recruit international service providers, and to encourage investment in local enterprises. Political risk will have to be monitored closely. |

Appendix A: List of Participants

IT INCUBATOR FOCUS GROUP, NOVEMBER 1, 2001

| No. | Name | Company | Tel | Fax | Email |
|-----|-------------------|------------------------------------------------------|--------------|------------|--------------------------------------------------------------------------------|
| 1 | Murad Tahboub | Asal Technologies | 02-2409101 | 02-2409103 | mtahboub@asaltech.com |
| 2 | Khalid Assali | Timex | 02-2401191 | 02-2401194 | kwassali@timex.com |
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| 4 | Marwan Totah | Bisan | 02-2985941 | 02-2985942 | totah@bisan.com |
| 5 | Mashhour Abudaka | PITA | 02-2961988 | 02-2964121 | abudaka@pita-palestine.org |
| 6 | Marwan Tarazi | Birzeit University | 059-658840 | 02-2810656 | mtarazi@Birzeit.edu |
| 7 | Sam Bahour | AIM | 02-2981566 | 02-2981567 | sbahour@palnet.com |
| 8 | Omar Sahili | DAI | 02-2987187 | - | Omar-sahili@dai.com |
| 9 | Denis Gallagher | DAI | 02-2987187 | - | Denis-gallagha@dai.com |
| 10 | Elias Dabit | IDS | 02-2962155 | 02-2962151 | elias@idsintl.com |
| 11 | Adel Lafi | National Institute for Information Technology (NIIT) | 02-2407751 | 02-2407754 | adell@ni-it.org |
| 12 | Mohammad Said | Palestine On Line | 02-2981103 | 02-2984167 | msaid@p-ol.com |
| 13 | Joe Gross | Incubator Practitioner | | | jgross@ctcluster.com |
| 14 | Ibrahim Barham | SAFAD / PITA | 02-2957229 | 02-2980142 | ibrahim_barham@safad.com |
| 15 | Tareq Maayah | SIEMENS / PITA | 02-2965741 | 02-2965742 | Tareq.maayah@ict.siemens.com |
| 16 | Mazen Asad | MASSAR | 02-2952818 | 02-2959110 | masad@massar.com |
| 17 | Bassam Abdulrahem | MASSAR | 02-2952818 | 02-2959110 | babdlrhm@massar.com |
| 18 | Sam Morris | PRIZM PIPA | 02-2988791/2 | 02-2988793 | smorris@palnet.com |

Appendix B: Draft PITA resolution

Commitment Resolution Towards the Establishment of an Information Technology Incubator in Ramallah

February 6th 2002

1. **Whereas...** USAID have a large multi year economic development technical assistance project in operation in Palestine called PRIZIM.
2. **Whereas...** PRIZIM's broad objective is to develop the capacity of Palestinian institutions to create jobs by attracting foreign direct investment (FDI) and mobilizing local investment and backward linkages.
3. **Whereas...** The Services Group (TSG) of the United States is the consulting firm contracted by USAID to operate the PRIZIM project.

Therefore let it be agreed:

- The PRIZIM Management has proposed to P.I.T.A. (Palestinian Information Technology Association) to utilize PRIZIM funds to support the establishment of an Information Technology Incubator.
- The PITA Board of Directors agrees to join with TSG-PRIZIM to form a joint initiative to establish an Information Technology Business Incubator
- Mission:
 - Incubator for IT companies, provider of business services to customers of IT companies.
 - Advises/support any other incubators.
- Objectives
 - Promotes international standards/best business practices.
 - Facilitates partnering with others (join ventures with other Palestinian IT companies, and with international companies).
 - Source of prescreened, prequalified deal flow for investors.
 - Source of prescreened, prequalified vendors to customers.
 - Companies pay for portion of cost of services
 - Strengthen, grow, sustain existing IT companies and their customers, and promote new business formation.
 - Vehicle for internships for university IT students.
 - Source of support for other incubators
- Two Year Project
 - Oversight committee to develop/recommend long-term structure and business model.

Structure for Implementation:

- Upon agreement by P.I.T.A. to co-sponsor this IT Incubator, PRIZIM Management will seek "go ahead" from USAID.
- Upon "go ahead" PRIZIM will complete a Proposal (in cooperation with P.I.T.A.)
- Upon "go ahead" a management and oversight mechanism will be designed, based on the recommendations of PRIZIM experts, PITA, and USAIDPRIZIM will staff and support the incubator and provide technical assistance with both local and expatriate experts, to the degree authorized by USAID
- Implementation will be closely coordinated with other IT sector support activities in Palestine, especially with the activities of the DAI-MAP project